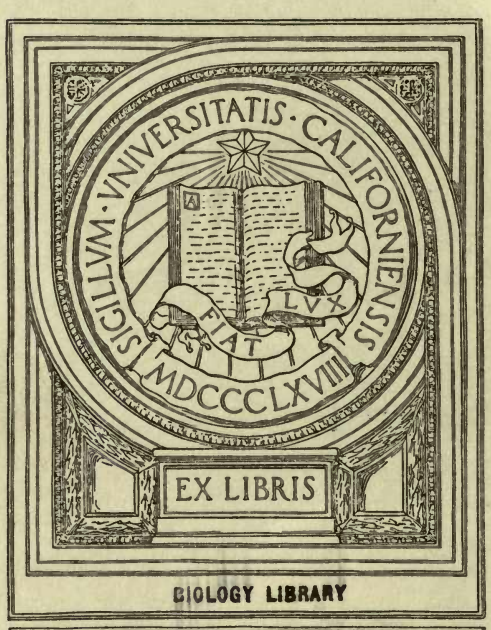

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Norway, 1871
Archangel, 1872
Petchora, 1875

BY

J. A. HARVIE-BROWN, F.R.S.E., F.Z.S

MEMBER OF THE BRITISH ORNITHOLOGISTS' UNION, ETC.

Joint Author of 'Fauna of the Moray Basin,' and 'A Vertebrate Fauna of Orkney;'

AND

Author of 'A Vertebrate Fauna of the N.W. Highlands and Skye'

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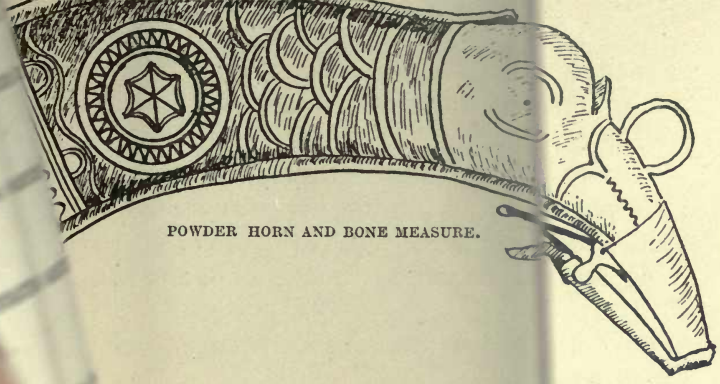

POWDER HORN AND BONE MEASURE.

PETCHORA 1875

(continued)

PART II.

D BIRD-COLLECTING AT UST-ZLMA

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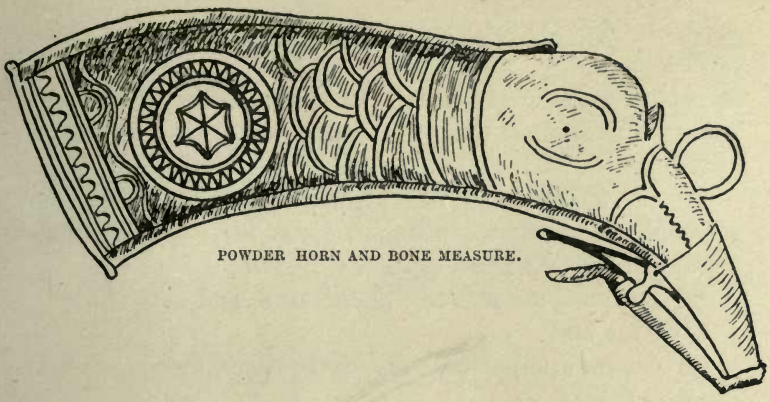


POWDER HORN AND BONE MEASURE.

PETCHORA 1875

(continued)

PART II.

LIFE AND BIRD-COLLECTING AT UST ZYLMA

Ust Zylma is a long straggling town—about a verst in length, containing a population of about two thousand souls. It stands on the right bank of the Great Petchora, near the first great bend in the river, and opposite the mouth of the River Zylma, and is 300 versts from the town of Pustozersk, at the mouth of the Petchora.

Looking down upon the river from the low hills behind the town, and upon the distant country covered with forest, or along the river courses fringed with willows, at this season it is sufficiently dreary-looking, but in summer the view must be fine. The river is a verst and a half (exactly a mile) wide, and at present is one great sheet of snow-covered ice, with sundry sledge-roads crossing at various points. Behind the town are low forests of spruce, edged with brushwood, at the distance

of about one verst, which look promising when the spring-time comes, but at present seem to be destitute of life.

(1) Snow Buntings are extremely abundant along the riverside and in flocks in the irregular streets and court-yards, and on the house-tops of the town.

(2) Redpolls are also not uncommon, and both the

(3) Tree and

(4) Common Sparrows are to be seen, though not in great numbers.

(5) Magpies are common, and so also are the cosmopolitan

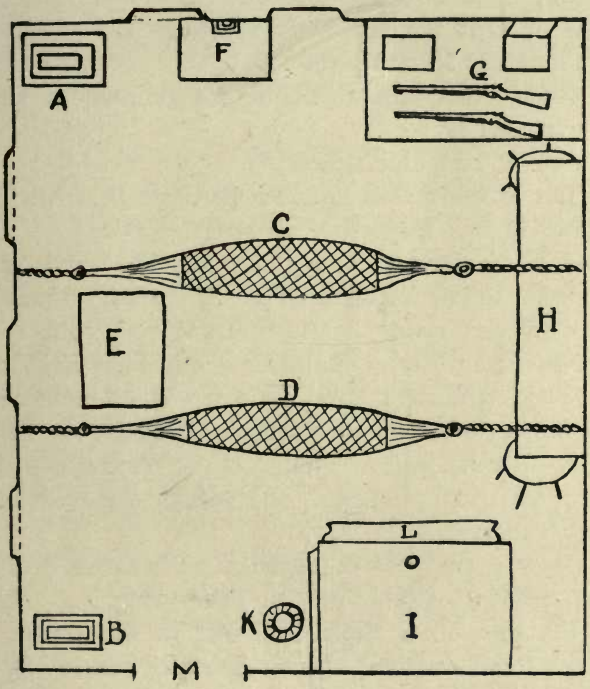
(6) Hooded Crows.

Piottuch's dog—'Isaak'—which took kindly to us south of Mezèn, and has accompanied us ever since, turns out a 'knowing one' as regards his own interests. We had two nicely-cooked 'Raibchiks' (7) intended for ourselves, but in the dead of night Isaac sniffed them out and purloined them. He has also tried hard to poison himself with the skinned specimens, and devoured eight of our Snow Buntings. Piottuch, who fondly counts each skin knocked off his thousand, was even more disgusted than we. '*Très mal chose*,' he said. 'Isaac' is now banished to sleep in the cold passage in punishment for his delinquencies.

We are here in the house of one of the 'Old Believers,' to which sect most of the inhabitants of Ust Zylma belong. We are not allowed to smoke in the presence of the household images, and our rooms have accordingly been cleared of them. Neither are we allowed to drink or eat out of their own vessels, or if we use them they are not again used by the family. In each house vessels are set aside for the use of strangers or those of a different creed.

April 18.

Sunday, the 18th of April. We are now fairly established in our two rooms at M. Bouligan's, and have arranged our effects to our own satisfaction. Our inner room is is about 20 feet by 18 feet. The following rough sketch will give some idea of our arrangements.—



The corners—A, B—are used for heaping up our màlitzas, rugs, &c., during the day.

The hammocks roll up and hang on the wall when not in use.

The small table F is used for putting maps, pipes, and sundries upon.

Under the bench H are parcels of luggage not in present use; upon it are our portmanteaus, etc.

Nails are round the walls for clothes, etc.

Over the end windows is a board for birds.

At present we spend our days much as follows:—We breakfast about seven a.m. Rig up our hammocks for our morning pipe. Write journals, letters, or go out shooting, or receive visitors and show our guns and curios—or visit the Ispravnik or others.

We lunch at 12 or 1 p.m.

Piottuch skins birds in the outer room, where we also take our meals.

Dinner at irregular times.

At ten or eleven we sling our hammocks or turn in on the floor in our respective corners.

To-day we wrote letters, journals, etc., and strolled about the town, shooting Tree Sparrows. There was high wind and snow, but it was not very cold.

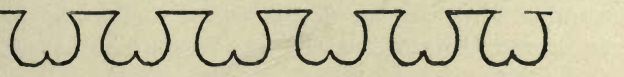
We saw numbers of Samoyèdes and their Reindeer in town, and examined their sledge harness—Reindeer reins, bone fixings neatly carved, brass (Russian or English made?) swivels, leather girths, etc. We hope to bring home a set of the harness, as the bone parts are neatly though rudely cut.

We saw a party of Samoyèdes and Russians, old and young, playing a kind of 'tig-in-the-ring.' A number hold the rope in a circle, and one in the centre tries to 'tig' those outside. Much laughter was going on.

The taste for ornamentation amongst the Russian peasantry seems to be very general, as most of the houses, and *all* those of the richer peasantry, have the staircase or porch end of the side and centre beams of the roof rudely, but not ineffectively, carved or fretted. Some of the patterns are rather pretty, but for the most part no great ingenuity is displayed by the artist. Here is one

of the prettiest, cut out of the coping or projecting beam of a house.

Sometimes, in the richer peasants' houses, but often



also in what are apparently much poorer houses, the under sides of the projecting eaves are brightly painted, whilst the fringe of the same, or single thin plank projecting downwards from the outer edge of the eaves, is elaborately fretted.

It should be mentioned that in every Russian village we have seen there is on each house a small square card, with a picture of an axe, a horse, and barrel of water, and sundry other items. This is—in the event of a fire breaking out—to show what each peasant is bound to bring to assist in putting it out.

The people are almost invariably good-natured, merry, and pleasant, and as we pass through the paddocks, or irregular streets, the men touch their hats or bow. The women, except on high holiday, seem to keep the house for the most part, but to-day being Palm Sunday, they turned out in force, and at one place we saw about twenty women and girls, clad in màlitzas, coloured blue, or with coloured over-'rubákas,' or shirts, playing at a game. On advancing to see what the game was, however, they stopped playing in order to gaze on the mad Englishmen in pursuit of sparrows, and we could not satisfy ourselves as to the nature of their sport.

On the side of the river we found the wings, tail, and sternum, etc., of an Eagle Owl. Unfortunately the sternum was damaged, apparently by a shot.

The note of the Tree Sparrow here is quite like a little

song, much more musical and varied than that of the House Sparrow.

Snow Buntings are extremely abundant, and to-day we observed some going in pairs, though by far the larger number are still keeping together in flocks. Yesterday we saw and heard one singing freely, perched on a heap of straw and manure.

The Magpies are abundant, and as many as eight were counted on the wing overhead at one time. Also Hooded Crows, and we saw an occasional Raven.

Redpolls are common, and the males are already taking on the delicate rosy or carmine tinge on the breast. We cannot make out quite whether there are two species of Redpoll here, or, if only one, which it is—Mealy or Common. We appear to have procured both the darker bird and a much whiter bird, but the latter scarcely can be said to differ much from the other in size.

Pigeons fly about the town, and are probably the same as those at Archangel; we have not yet procured specimens.

The Common House Sparrow we have not yet identified with certainty, though I thought I saw one the other day. At present they are very rare.

Captain Robert Engel—who is in M. Sidóroff's employ—is a character, and, like many 'salts,' a rather wild one on shore. He tucks into the best of good cheer, and treats every one recklessly to champagne from the store here. In one day he spent 50 roubles in champagne. Yet there is much in his honest face to like, a straightforward look about the eyes, and he is a handsome and powerful fellow, thirty-five years of age, with black, straight hair, black eyes, ruddy, healthy-looking cheeks, and black beard, and he stands about six feet in height. He has travelled all over the seas in ships, lived five years in Greenland, been at Hong-Kong, Jamaica,

Havana, Cuba, Black Sea, etc., and has now been for four years captain of M. Sidóroff's steamer on the Petchora. He has been nineteen years away from his home in Mecklenburg-Schwerin, and has got so fond of a roving, unsettled life that he finds difficulty in making up his mind to go home, though he feels it would be better for himself. He says after he has been twenty-five years away he will then go home. He will then be entitled to have his name put on the list of sailors who have served a certain number of years, and as this is a great honour, he will, he says, then rest on his laurels; or, as he expresses it, 'Never mind the weather; keep your legs together!' He speaks English well (with an accent), but says he has forgotten it after four years on the Petchora. He told us much of his experiences and adventures; gave us some useful hints, and also a good deal of reliable information about the Samoyèdes, having stayed often in their 'chooms' and seen a good deal of them at Habarika, Pustozersk, and at Varandai and elsewhere. His information I will give further on.

April 19.

On Monday, the 19th of April, Seebohm and I each took a sketch of the old church, which sketches were fairly successful.

The other morning we did some marketing. We *saw* the ribs of a sheep, and *felt* them, but did not buy. It was a poor, lean beast. We viewed then a piece of a cow at 1½d. (4½ kopeks) per lb. Our purveyor and cook, a peasant living not far off, made good soup and steak therefrom. Raibchiks cost 20 kopeks per brace; small, round rolls are 12 kopeks per pound; reindeer tongues, fresh, are 10 kopeks each. Our purveyor also bakes beautiful white bread for us, and makes fresh butter, which costs 30 kopeks (10d.) per Russian lb. M.

Znaminsky kindly sends us delicacies from time to time, in the shape of meat-rolls, pieces of salmon, etc.

April 20.

On the morning of Tuesday, the 20th of April, we had for breakfast a dish of Snow Buntings, half of them cooked in Seebohm's machine and half in mine. They were delicious.

Piottuch started early—about 4 a.m.—with my gun, to try and discover a locality for birds. After breakfast we swung our hammocks and had our morning pipe as usual. Hammocks are assuredly most luxurious things, and we enjoy them *so* much that, when in them we feel much too lazy to do anything but smoke. Sometimes Seebohm begins to speak, but the words die away in a whisper or a yawn, and as he meets with little encouragement on my part to continue the conversation, we soon again entirely devote ourselves to 'rocking our cradles.'

We ourselves strolled along the river to the north end of the town, and went up a little narrow valley, thinly clad with scrub and a few spruce-firs, in search of birds, but the only new one seen was a Yellowhammer. Numbers of Snow Buntings were frequenting the fields upon which the natives were laying down or spreading manure. The partial thaw—in the morning from the sun above, but later in the day from a gentle wind with cloudy sky—seems to have scattered the buntings over the manure-covered fields, and the town itself is comparatively deserted by them. We had good opportunities to-day of watching their motions on the ground and in the air, and came to the conclusion that they both walk and hop frequently; perhaps the former more than the latter; and that they run less frequently. The marks on the snow showed also their motions very distinctly.

Redpolls were also common amongst the scrub in small parties or singly, or beginning to go in pairs. The males are now assuming a beautiful carmine tinge on the breast.

Hooded Crows were seen on the snow of the river below us, dodging carefully round three or four dogs which were quarrelling over a bone, and occasionally getting chased by the dogs.

Magpies were abundant, seemingly also temporarily beguiled from the gaiety of Ust Zylma by the attractions of country life caused by the thaw.

We begin to realise the change a thorough thaw will make in the town; already the paddocks and streets are one mass of manure; and pools of dark brown liquid stand often in dangerous proximity to the wells from which the natives draw water for domestic uses. No wonder we soon learn the reason why the unfiltered or unboiled water, if too freely used, produces tapeworm, as we were informed by Captain Engel that it does.

Piottuch returned about midday, before we went out, after a long walk, and reported upon the present nakedness of the land as regards bird life, only having seen two species of Tit, and shot four Snow Buntings *dans les arbres*, as Piottuch designates the forest-land.

To-night Piottuch, bent on exploration, accompanied M. Znaminsky to Ijma, and if he finds plenty of birds will remain for a day or two.*

April 21.

On Wednesday, the 21st of April, the sun was very powerful, and the dark patches on the hillsides were increasing in size. We crossed the main branch of the river, and seeing some birds amongst some willows,

* He returned on the 24th, having only seen one Goshawk and one Peregrine.

which we took to be Crossbills,* on one of the islands, we attempted to follow them up across the intervening belt of willows. We *did* get across the space of a hundred yards or more, sinking often up to our waists in the deep snow, and only once more proved to our dissatisfaction the utter uselessness of attempting any collecting aside from the hard roads without snow-shoes.

We had a good view of the town from the first to the second bend of the river, or rather, along the semicircular sweep which it makes in turning from its east and west course to its south and north one. It is a long, narrow town, *not*, we think, so much as three versts in length—nearer two. It is backed by low hills with forest of spruce-fir behind. The churches stand about the centre of the town. Later we hope to make a rough bird's-eye sketch of it.

Captain Engel called on us on his return from Ijma, and afterwards we went out with him to examine some Reindeer in the town, concerning which I give particulars in the chapter on the Samoyèdes (see Appendix).

After inspecting the Deer, etc., we went to M. Arendt's house and drank tea. Presently the Captain brought in a man whom he strongly recommended as a good pilot, and we engaged him as one of our crew, at 16 roubles per month. To-morrow the engagement is to be formally ratified before the Ispravnik.

April 22.

On Thursday, the 22nd of April, we took a walk up the river to some earth cliffs or banks. A quantity of detritus had fallen down and accumulated at the base, or perhaps had been partly brought down by the river ice from a distance. Amongst it we found mountain limestone

* As we never afterwards met with Crossbills, and saw Bullfinches at the same place, we were probably mistaken.

M. ARENDT.

Manager for M. Sidóroff on the Petchora.

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containing many fossil shells, one piece of madrepore-like fossil not unlike the madrepore found on the Devonshire coast, and another large piece of coarser madrepore-like fossil which we could not break in order to bring away a specimen. We picked up also a fossil bivalve shell like a mussel and several others. Then there was also hæmatite-like ironstone and flints, and a soft stone upon which I successfully sharpened my knife, and various others which we could not identify.

We climbed up through soft mud and snow to the top of the bank—between fifty and a hundred feet—and went still further along the river, which here makes a noble semicircular sweep before pursuing its northerly course. Reaching a commanding point we looked away far up the great river on its east and west course, the road on its surface winding, and marked out, as on most of the winter roads, with small spruce-trees and bushes pushed into the snow.

We passed through one or two small villages and past a few scattered farmhouses, crossed several deep gullies and one broader valley, and reached the above-mentioned point, where the thinly-scattered forest of small spruce comes down close to the river-bank.

Of birds we saw very few indeed—Redpolls, Snow Buntings, etc., and a small party of Yellowhammers, of which we shot one.

We had a sharp walk back of some five versts, which repeated every day will, we hoped, soon prepare us for harder work.

In the morning, before we started, Herr Arendt and the man whom we engaged last night as our steersman came, and we together went to the Ispravnik's office and had the agreement formally drawn up and signed.

We arranged to pay him at the rate of 16 roubles per month, and he to find himself in food. He goes with us

during that time wherever we desire amongst the islands of the river and delta. We paid him for one month in advance.

April 23.

On Good Friday, the 23rd of April, a tall dark Polish Jew, who spoke German, came and called to see us. He is employed by M. Sidóroff to brew ale for the steamer, and lives at Kuja.

After some conversation he mentioned the two Englishmen who were at Piñega last year, and that he translated for them, and purchased for them, or brought to them about fifty crosses of old silver. He is only very casually mentioned in Rae's book.

He gave us some information about the Old Believers, which I will mention later.

In the evening Seebohm and I started in the smaller pavoska for Umskaia, to get Kookshas (Siberian Jays) and Bullfinches. Our adventures varied enough for quite a 'Chapter of Accidents,' or 'The Adventures of a Pavoska.'

First, going up the Petschorski Pischma we were overturned three times in five minutes, the pavoska, which was strapped on to a country sledge at Celechenskaia, having become top-heavy and its centre of gravity displaced. These three upsets played mischief with the sides of the pavoska and smashed the outrigger, and the rest of our journey was a series of constantly repeated misfortunes, which from being simply ludicrous became —to say the least of it—extremely tiresome.

Before reaching Umskaia we were upset fifteen times. The 'yemschick' on our second stage, from Keeslaia to Umskaia, cleverly repaired the outrigger, by replacing and tightening up the crossbar which passes behind the sledge and keeps the outriggers in their places, but it did not prevent the upsets.

The sledge always upset towards my side, and Seebohm with his spring-seat, cushion, and the whole bundle of rugs, great-coats, and waterproof sheets, came on the top of poor me.

Things were generally soon righted; but constantly getting out and in, and being in perpetual expectation of upsets, banished all hope of sleep, so we gave that up as a bad job. Seebohm generally fell lightly, but had a Tichborne been in his place there would have been but little breath left in my body at the end of the journey.

April 24.

However, our remains arrived none the worse for wear at Umskaia about 6 a.m. on Saturday, the 24th of April, and after a cup of tea we went out to look for birds. We had purchased two pairs of snow-skates before starting, and so were fully prepared; but few birds were to be seen, and we shot only four Bullfinches and two Redpolls. Two splendid White-tailed or Sea Eagles came overhead, but far out of shot.

By dint of tight tying and twisting of ropes and prising of the pavoska into its proper place, etc., we made a good job of it, and—wonderful to relate—got back to Ust Zylma without a single upset, about 1 a.m. on Sunday morning.

April 25.

The 25th of April being Easter Sunday, about three o'clock in the morning we witnessed the service in the Orthodox Greek Church. We missed the grand ceremony at midnight, and only saw the simple service, to which the people were summoned by the church bells jangling. We came in when the priest was reading at the foot of the steps what we took to be equivalent to the second lesson. Then followed a chant, then the Litany, then the communion elements were brought in to be

blessed, the Host elevated, and incense swung at the entrance to the inner temple. Then followed the Creed, I believe, and chanting, and the bread was handed round amongst the people, and a cross held up at the foot of the steps to them to kiss. A plate for alms was also handed round, and most gave something.

It is needless here to describe the gaudy decorations of the church, the rich robes of the priest covered with gold lace, etc., or the handsome chandeliers and candelabras, as such can be seen in greater perfection in more distinguished towns of Russia than Ust Zylma.

Standing near to me was a young peasant who was unusually busy in crossing and bowing. He attracted my attention, and I distinctly saw him place the thumb and third (?) finger together according to the use of the 'Old Believers.' Here, then, was an 'Old Believer' worshipping in the Orthodox Greek church.

Several old Slavonic books have been shown to us with most extraordinary illustrations, some representing the difficulties of reaching heaven, others the torments of hell, etc., etc. As yet we have not succeeded in purchasing, as the owners are unwilling to part with them.

This is a great day for friends visiting. All ours called to see us in a body, M. Znaminsky, Captain Engel, and Herr Arendt, M. Mirónoff (jurist), schoolmaster (introduced), postmaster (a great sportsman), M. Radakoff (merchant at the store), and the tall Polish Jew—and for the fiftieth time we had to show our curios, etc.

April 26.

On Monday, the 26th of April, there was a heavy fall of snow, and everything was coated afresh with pure white, and on Tuesday, the 27th, there was bright sunshine and strong westerly wind, but little thaw accompanying it.

We took coffee at twelve noon on Monday with M. Mirónoff, and stayed for dinner. He showed us a number of coins and gave us some. The oldest were

dated 1737, 1738, 1740. All were Russian except one, which was Siberian, and which was dated 17—?

He also showed us some articles of Samoyède manufacture, made by the wife of a blind Samoyède who lives in Ust Zylma summer and winter. There were the 'pimih,' worn by women, beautifully sewn, and a bag also neatly done in white and brown reindeer fur. This bag he kindly gave us, and also the following articles:—Altogether thirteen copper coins, including the Siberian one—two silver coins—a piece of graphite apparently as good as Cumberland lead, and a Russian basket for catching Cray-fish. This graphite has been sent by M. Sidóroff to England to be tested. The strata were found on the eastern slope of the Ural by persons employed by M. Sidóroff, and he intends to work it up if approved of.

RUSSIAN CRAY-FISH TRAP. (*Veorscha bepuia.*)

We further received a large six-sided crystal, a *stone* for stopping blood, called by the people 'devil's finger,' found on the banks of the Petchora and said to be rare.

He also gave us a Swan's egg—very small indeed—which came from Pustozersk, but whether taken there or

brought in by Samoyèdes he could not say. We have never had an opportunity yet of examining a Swan's head. When the skins are cut up the heads are thrown out. This egg may be a Bewick Swan's, or it may be simply a small Common Wild Swan's.

In the evening we took toddy—brandy hot—at M. Arendt's, and the Captain described to us how the Samoyèdes bury their dead, an account which I will give later.

April 27.

On Tuesday, the 27th of April, Seebohm and I crossed the river on snow-skates and tried to get some birds. I went up the Zylma a short way and searched the willow swamps or meadows, but did not see a single bird. Seebohm was more fortunate on the island and further along the bank, seeing altogether sixteen or eighteen Bullfinches and one Marsh Tit, shooting three of the former and the Tit (but losing the Tit out of his pocket). All the Bullfinches seen were males.

We both came across 'springes' set for hares or birds, which shall be described when we get specimens of our own.

This morning the first nest was brought in to us by two men—a Siberian Jay's with three eggs, but the latter were all broken, having been packed in the nest *with salt*, and Seebohm had some trouble in clearing the nest of the salt, as it had got mixed up with the lining feathers. At first we thought it was snow, and put it over the Samovar to melt.

We arranged to go down to Habarika with the Captain to-morrow.

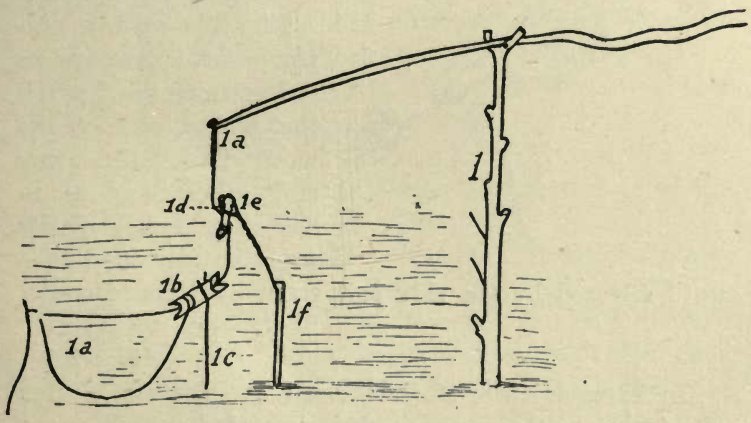
April 28.

The Captain did not turn up till near twelve noon on Wednesday, the 28th of April, and then told us that he could not go down to Habarika till night, so we arranged to follow him early the following morning.

Seebohm shouldered his snow-skates and I tied mine to my bag, and we started across the river to try the north bank of the Zylma. Snow-skates are about as *inconvenient indispensables* as one can find. The fastening of them on, and the continual loosening of the straps in the first place; and the awkward positions and situations one gets into afterwards in thick willow swamps, sloping banks with stumps or bow-shaped branches protruding from the snow, and even sometimes in the open ground unless one is expert in their use, make them, though necessary, most troublesome. But anything is better than plunging at every step up to one's waist, and getting along at the rate of half a mile an hour.

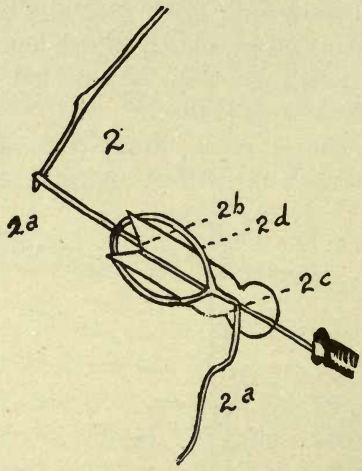
All we saw in the mixed alder and birch and willow forest to the north of the Zylma was a solitary Marsh Tit, which Seebohm shot, and afterwards on the island I had a long shot at a Lesser Spotted Woodpecker.

We again examined the snares more minutely, and found them resemble one another in general appearance



and mode of working. Fig. 1 represents the whole springe; 1*a* is the string forming the noose, one end of

which is *tied* to the hollow tube of wood, 1*b* forming the runner, the other end of the string passing *through* the tube, which is lightly balanced on the forked twig 1*c*. The string is then tied to the lower end of the small piece of wood, 1*d*, passes up along its side and through a hole near the other end, and thence to the small end of the balanced beam. The top of the piece of wood 1*d* is smoothly rounded off, and the loop 1*e* (which is firmly tied to the stick 1*f*, which again is firmly planted in the ground), is passed over the rounded end of 1*d*, and, resting partly on the string 1*a* and partly on the wood, pulls directly against the upward pull given by the balanced beam.



When 'Puss' gets into the noose, the piece of wood 1*d* is displaced and the loop slips off, and the balanced beams flies up and hangs 'Puss' in good style.

Fig. 2 is equally simple. 2*a* is the noose string which lies through the nicked end of the wood 2*b*—after being tied at 2*c*, and as in the other, is held in its place by the loop 2*d*—until released by the side pull given by Miss 'Puss.'

April 29.

On Thursday, the 29th of April, we left Ust Zylma about nine in the morning and sledged down the river, 40 versts, to Habarika, for the greater part of the way upon the river, but also crossing islands covered with

willows, or darting up some small kouria (creek) or branch of the river, and crossing over the mainland. Twenty versts from Ust Zylma is a half-way house, where we stopped to rest our horses, and then proceeded, reaching Habarika at one o'clock. We were cordially received by the Captain and his Russian wife, by the engineer of the steamer, and by the German captain of the cutter.

Both the steamer and the cutter were lying in winter quarters in the kouria, or offshoot of the river, and 50 feet below the level of the hamlet of Habarika. We were told that when the floods come the water rises almost to the level of the houses, and that at Kuja, or lower down the river, great blocks of ice, at times, crush through the walls of the houses, but Habarika is exceptionally well protected by this kouria and a point of land stretching down to the river opposite.

Near Habarika are some fine larch-trees, and the island and shore seem to be well wooded. Far away across the frozen plain (the ice of the Petchora) and a great breadth of forest, we could see the low wavy line marking the sky-line of the Timan range of mountains, beyond which commences the Timanski Tundra, inhabited by Samoyèdes, who do not cross the Petchora with their Reindeer at Ust Zylma at all, but winter at Pustozersk.

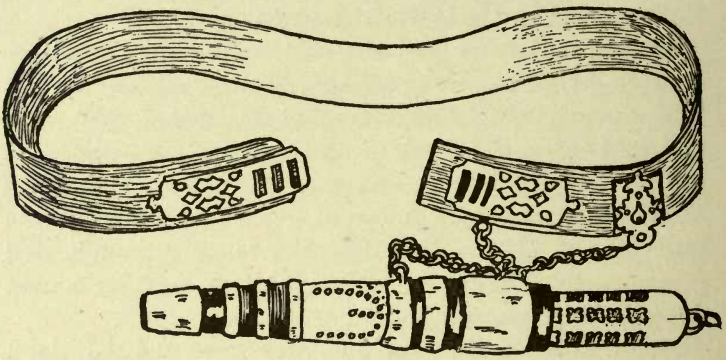
At 3.30 p.m. we accompanied Captain Engel and the engineer to visit some Samoyèdes—an account of which I give in the Appendix on that subject.

We stayed more than an hour at the chooms, and afterwards joined our sledges and drove back to Habarika.

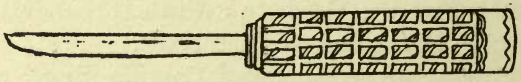
Standing beside our sledges were two long narrow hand-sledges, like the 'toboggan' (?) of North America, belonging to two Russians who had come all the way from Pischma, and were *en route* for a place called *Yorsa River*, where great numbers of geese and ducks, etc., come after the thaw begins.

To-night we swung our hammocks in a room in the Captain's house, and slept soundly. To-morrow we are to visit the 'chooms.'

When driving down this morning we purchased a knife and belt from our Yemstchick. The handle of the knife



was of wood in-laid in an artistic manner with lead. The Captain gave us to-night another knife of the same kind, and also a powder-horn neatly engraved and done by a



Samoyède from a copy, along with a carved bone powder-measure (see p. 261).

April 30.

On Friday, the 30th of April, although Captain Engel had to return the previous night to Ust Zylma, we remained in order to visit the Samoyède chooms, which are now close to Habarika, and made an extensive and interesting series of observations which are set forth in the Appendix.

At Habarika we met with very few birds indeed. An Eagle, which was too far off for identification, flew overhead yesterday. Redpolls were common close to the village, and, as usual, Magpies and Hooded Crows. Two Marsh Tits flew into a larch close to us this morning, but we did not get a shot. A few Snow Buntings were seen, but we did not shoot any at Habarika. No sparrows were observed.

Coming home in the afternoon to-day we shot two Siberian Jays, and Seebohm shot nine Snow Buntings at a shot. On dissection the Jays were found to be both females with quite small eggs in the ovary, and no appearance of their having been engaged in incubation. These Jays are rather puzzling. They are known to breed very early, yet the ovaries appear to be in a very backward state, and this is the last day of April.

The Snow Buntings have of late made little progress in attaining their full summer plumage, and we have only one—dated 20th April—which has a perfectly white head. The plumage of the ♂ and ♀ seem to run into one another, but we must get a larger series of carefully-sexed examples before deciding to what extent this appears.

I may here mention that on our return to-day from Habarika to Ust Zylma—as also on our journey in the reverse direction on the 29th—we again had several opportunities of seeing Snow Buntings perch on trees.

We left Habarika about 1 p.m., and got back to Ust Zylma in about four and a half hours. A considerable thaw had set in, which made the road rather heavy.

Piottuch—with M. Znaminsky's assistance—has hired a capital boat, deck-house and fittings complete, for 25 roubles, of which 15 roubles is to be paid in advance and the remainder on our return from the delta. This is just about three times as much as we were told at Archangel

the hire would cost. The fact is that it is now close to the commencement of the fishing season, and boats are in demand. Boat-building is going on rapidly in the town, the great strong keels being made from the stem and root of a larch, and hewn out of the solid. Not only are boats in demand, but labour also, and instead of 10 or 12 roubles per month, we have to pay our pilot 16 roubles and a second man 15 roubles per month, and we are obliged to engage either one or two more still.

We receive wonderful accounts of the strength of the current of the Petchora from Arendt and Znaminsky. They say it runs at the rate of 16 miles an hour, but judging from the stories Alston and I were told of the necessity of having four men on the Dvina in summer, and our only having two, we are inclined to doubt great part of what we hear. However, it won't do to go on the great river ill-provided with men, cost what it may.

The thaw continued to-night, and looked like the first serious attempt to melt the snow.

May 1.

On Saturday, the 1st of May, the thaw continued, and so soft did the snow become in places that I broke one of my snow-skates (luiji), my weight taking effect in the centre and the ends being still supported by the snow.

We went up a valley clothed with spruce behind the town (of Ust Zylma), where the country rolls away in endless low hills and valleys clothed in forest. A Yellow-hammer singing was all we heard or saw, except the common birds before named. Not a single Snow Bunting remained in the town, and all are doubtless feeding elsewhere. Insects and spiders were seen on the surface of the snow, and a warm wind blew from the south.

When we came in to write up our journals, etc., M.

Bouligan, our landlord, brought us various articles and offered them for sale. There were pieces of reindeer harness, necks of pintail-ducks sewn together, a handsome 'saveek,' a bundle of fox-skins, and a bone with a ring of lead at one end and the lead let in in a pattern in the stone. We purchased the fox-skins, four white and one handsome dark one, for 9½ roubles. M. Bouligan's brother presented us with a complete set of reindeer bridle harness.

We purchased to-day four female Capercaillies, which were brought in by a Russian peasant, for 20 kopeks each. They had been shot with rifle bullets and were considerably cut up, but by careful and persevering washing and the use of sawdust—a tip given to Danford and me last year in Transylvania by the curator of the Klausenberg Museum, who assisted us in our collecting there, etc.—Piottuch made a very nice skin of one of them. The eggs in the ovary were very small. The crop was full of fir-needles, separately and in tufts.

Bug-hunting began with us on the first morning of May, and each morning since has been prosecuted with vigour, until we are beginning to understand the wretches, and could almost write a chapter on their natural history, haunts, and habits. In the morning J. A. H. B. opens his eyes as he lies in his hammock and sees Seebohm stalking about with a No. 12 gauge cartridge, held, suggestively, betwixt the thumb and forefinger of the dexter hand. Up springs J. A. H. B., and shortly afterwards may be seen rushing about with the large knife stabbing violently at every suspicious atom of *red* on the roof and walls. Though the B flats have not yet bitten in our chamber, from their *very* flat and genteel appearance we are led to suspect that they will be only too happy when they find us out. Piottuch complains that he has been *mangé toutes les jours*. But the old soldier, our purveyor,

is most useful in detecting their hiding-places. He may be seen when the *chasse* commences, peering inquiringly into the crevices of the windows, and when he discovers one he places his forefinger within an inch of it, grins, and looks as if he were looking through a telescope. He seldom laughs heartily, but Seebohm 'fetched' him completely one morning. Piottuch discovered a 'B flat' on his shirt, and Seebohm promptly plumped him into a small bottle of spirits which we have prepared for all such 'mixed pickles.' Our cook and purveyor went off in a perfect roar of laughter. Such an exquisite death, he thought, no doubt, for a B flat.

[No entries for 2nd]. *May* 3.

On Monday, the 3rd of May, we saw two Jackdaws, the first we have observed at Ust Zylma, and Seebohm succeeded in shooting one of them.

May 4.

To-day I fired into an immense flock of Snow Buntings —500 or more—and killed 25. Of these 16 were picked out to be skinned and carefully sexed, a task which Piottuch accomplished, we also looking at the dissection.

The males have all more or less a white collar, but only two of those we got as yet have a pure white head. The females have all more or less ochre on the crown of the head, and all have the neck mottled, and in some the ochre extends down the neck. The males have the centre feather of the tail at least one-eighth of an inch longer, and the same difference exists in the length of the wings of the males over that of the wings of the females, of such as we have examined.

In the town not a Bunting is to be seen during the thaw, but it is doubtful if this large flock consists of the same individuals, as the proportion of younger birds in the

large flock appears to be much greater, or the proportion of females is much greater. When the great flock settled on the high railings which are used for drying grain in autumn, they kept up a continuous twitter for some seconds, somewhat resembling the noise made by starlings when together in a large flock, and the noise of their wings could be heard as they rose at a considerable distance.

Their food at present appears to be principally grain and hay-seeds picked up from the horses' droppings. They are plump and in good condition, and are excellent eating.

The black on the centre tail feathers of the male extends much further down than on the females—or nearer to the root.

May 5.

On Wednesday, the 5th of May, we climbed up the little valley where we saw the first Yellowhammer on the 20th of April, and went again into the forest higher up. Ravens were constantly passing overhead across the valley, uttering at times their hoarse croak. Two Magpies had a nest in a spruce ready for eggs, and they seemed quite solicitous for its safety as they flew chattering along in front of Seebohm (who had put his hand into it) for some distance, apparently trying to lead him away from it.

A ♂ Hen Harrier was seen by Seebohm in the little valley as he dashed past, and a splendid old male Merlin was seen as we entered the town, threading the main street, doubtless in quest of Sparrows.

We observed a trap set in the wood, but could not recognise its nature as it was partially hidden by snow.

This morning a fire broke out in M. Arendt's house ; it was soon extinguished, but not in time to prevent a considerable amount of damage being done to the flues and

upward connections of the stoves, so that now he can have no cooking done in the house.

Every one assists to extinguish a fire in a Russian village, and, as before mentioned, each peasant has to supply some particular article and bring it to the place. Thus we saw the peasants, some armed with wooden shovels, others with axes, etc., etc.

May 6.

On Thursday, the 6th of May, the storm of snow continued, and everything is again white, and not the slightest sign of summer. It is rather tiresome, but there is no help for it, and after all it is wonderful, too, how time passes.

May 7.

On Friday, the 7th of May, the snow still continued during the greater part of the forenoon, changing to hail and a little sleet.

We have shot a number of Redpolls and compared them. Close under our window yesterday a number came and fed, and seemed to keep company with the Snow Buntings, which, as usual on the return of snowy weather, are again to be seen in flocks in the street and on the great dung-hills (and valleys) of Ust Zylma. But the Snow Buntings are by far the wilder birds, much more easily startled; and when I raised my hand at the window the Redpolls would take no notice, while the Buntings would fly suddenly up with a startled cry and alight again.

Amongst these flocks of Redpolls there are some larger birds, conspicuous from their white plumage, the pureness of the white on the rump (or tinged with carmine), the carmine on the breast, and, perhaps, as conspicuously as any, the white edging of the feathers of the bastard wing; and are easily recognised at a considerable distance. These are male birds.

The wings of these larger and whiter birds measure from 3·03 to 3·08 inches, and the tails from 2·67 to 2·68 inches, and those of the smaller males measure—wings, 2·88 to 3·01 ; tails, 2·50 to 2·65. The females measure—wings, 2·78 to 2·97 ; tails, 2·50 to 2·59.

A small male has a dark rose-colour on the breast, and, as far as memory can be trusted, is similar to all those obtained by Alston and myself at Archangel in 1872, and which Dresser identified as more like the *Lesser* Redpoll. The colour on the breast is much richer and denser than in birds obtained in Scotland, and appears also different from the carmine or *pale* rose upon the larger, lighter-coloured birds, but this may possibly arise from this bird being more adult. In this smaller dark-rose-breasted specimen there is also a tinge of paler-rose or carmine on the rump, which rosy tinge is absent in all the females we have examined.

The undertail coverts of the larger males are also white, with *no* dark centre, whilst all the others have a dark central streak, including the above-mentioned dark-rose-breasted small male (No. 40 of our list).

Another small male has a distinct golden tinge on the crown, and others show this more indistinctly.

To-day we strolled out of the town up the riverside. Seebohm shot a ♂ Yellowhammer in the town, and we saw a splendid old ♂ Hen Harrier, which was evidently diligently seeking for food in a small village about two versts from Ust Zylma, going away and returning, flying back and forwards, but never offering a fair shot. This, Seebohm says, is the same bird he saw yesterday.

I fired again into a large flock of Snow Buntings, and bagged 20, some of which are very handsome, and one or two of the males show single black drop-like markings on the otherwise pure white of the rump; others still retain the ochre on the rump in considerable quantity.

A Magpie seen to-day uttered a most peculiar note, more resembling that of a Chough. We failed to get a shot at him, but found a nest nearly completed which probably belonged to him.

Looking over our Bullfinches to-day (ten males and two females) we found in two of the males a tinge of rose-colour on the feathers of the back which we do not remember seeing in any specimens we have examined.

Two Hazel Grouse were brought in for sale, shot, as usual, with the rifle. From the burst crop of one of them —a male—we took a quantity of buds of the birch-trees.

We examined the rifle of a peasant who was practising at a small target, and asked him what the value of it was, ' Skolka roublé,' and he said ' five roubles ' (pyaït roublé). Round the leather thong which suspended his powder-horn (something like that figured on page 261) he had a thin roll of lead twisted, from which, with his strong white teeth, he bit a small piece, and then chewed it into shape, forming a rough bullet about the size of the round end of our revolver bullets, No. 312. This he had some difficulty in ramming home. The bore of his rifle was hexagonal, and the metal very thick. The stock was rudely coloured and ornamented.

May 8.

On Saturday, the 8th of May, we heard that a report had gone forth that no post will now arrive for two months, and that the post due last night or this morning has not come further than Mezèn, but we cannot understand how such news could travel faster than the post itself.

To-day it is bitterly cold, 2° Reaum. with north wind. We went out along the river to the north to try for Ravens in the little valley where we saw them crossing before, but we did not see many and did not get a shot. We saw an

Eagle, the same ♂ Hen Harrier and a fine ♀ Merlin, which last I shot. We also shot some Tree Sparrows, a Magpie, two Hooded Crows, and one Yellowhammer. And we saw an Eagle Owl at a peasant's house, which had been shot with a bullet.

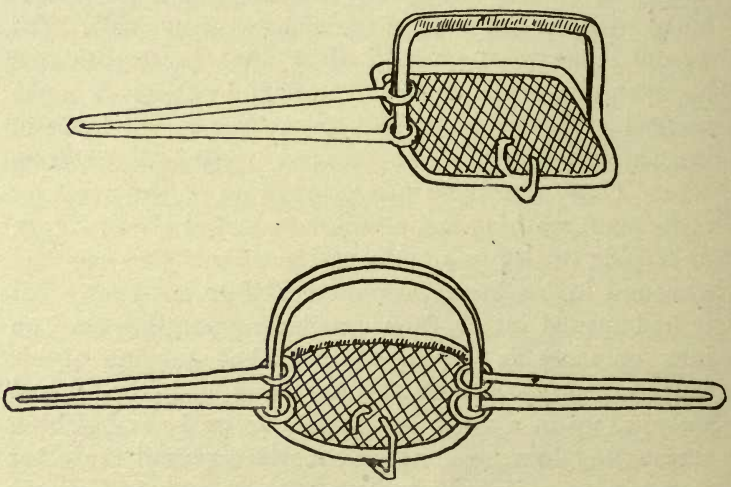
There is great need here for a doctor, and there is none. Peasants have repeatedly come into our rooms asking for advice as regards ugly wounds in the hands and legs and feet, principally caused by the axe. We think it no great wonder that such wounds are frequent, as the axe is held in a way which would be considered highly dangerous in our country. The men stand with the feet close together, and cut across a tree or log straight towards their legs, lifting the axe straight above the head.

But it is not the immediate effects of the wounds which are dangerous, if they were properly treated, but the bad and most ignorant treatment they receive, possibly combined with the bad state of the blood in individuals. The wound is wrapped up in a filthy dirty rag or coloured handkerchief, which appears never to be changed, never washed or tended, and the consequence is, all kinds of impurities get in, and the wound becomes a festering sore. They seem to be utterly unaware of the necessity of frequent washing and cleanliness, and of giving it rest, or keeping the leg in a horizontal position. One man had a wound in his heel—how received I do not know—but it had opened into a deep circular suppurating sore, an inch or more in depth. Another had cut one of his fingers nearly off with an axe, and had the wound wrapped up in a dirty rag. For four weeks it has been tormenting him, swelling and mattering until the other fingers next to it have become affected, and are bent out of shape and comeliness. We dispense lint and oilskin, and do what we can, but we never can feel sure that they follow our directions.

During holiday-time it is the practice of the peasantry to erect dangerous swings and swing upon them from morning to night. Whilst putting one up the other day the top crossbar fell, crushing a peasant under its weight. He fell with his face on the frozen ground, got his nose split open, his whole face swollen, cut, and disfigured, and the back of his head terribly bruised. Piottuch went with lint and oilskin and bathed, washed, and bound up his wounds, and in a few days he felt able to move away to his own village at a distance. In a town with two thousand inhabitants, surely a Government doctor ought to be stationed, and much needless suffering from ignorant treatment prevented.

May 9.

On Sunday, the 9th of May, we took coffee with M. Znaminsky, and dined afterwards. He showed us a



capital trap, or stamp, somewhat similar in action to our rabbit- or otter-stamps in Scotland, but instead of having an iron tongue or plate, it had a netting of cord stretched

across in its place. A hole is dug underneath the trap, so that when the animal puts its foot on any part of the net, the 'catch' (attached to the net and held by the 'link' over the set 'jaw') is released, and the jaws fly up as in ours. It is used for foxes, and also for otters, and, I think, for the latter animal, is certainly an improvement upon our common stamp. Otters with us are generally caught by the toes, and they sometimes manage to escape or gnaw through the tendons; but this trap would seize them high up the leg or across the chest and shoulders, and *then* they could not struggle at all. It will be well worth while to have one made for the otters in the Carron at home, where we catch many.

After dinner we went with M. Arendt to witness the ceremony of marriage in the Russian Orthodox church. A number of peasants were present, men, women, and children, dressed in their holiday attire, and a few of the women wore rather handsome silver ear-rings—similar to some we saw at Archangel. To one of the pendants of the ear-rings a string of differently-coloured glass beads was attached, and then passed over the collar of the 'màlitza' and round the neck, from which it was of course lost to our view.

The bride wore a head-dress woven with silver tissue, the bridegroom simply his usual dress as far as was visible, the universal màlitza. The brother of the bride or bridegroom, or the bridegroom's 'best man' (I cannot say which), wore a schoub with a 'favour' of red coarse cloth on his right shoulder, and the father and mother appeared to be in their ordinary costume.

When the bride and bridegroom came, the space opposite the altar was cleared for them in the outer chamber, and they knelt down and bowed their heads to the ground thrice (the bride having her head and face

covered twice, and the third time uncovered). Then the priest advanced with a silver server, and received from them their bridal rings, which he took into the third or inner chamber, doubtless to bless. The priest then advanced with four tapers lighted; the bride and bridegroom bent their heads, and with the unlighted end of one of them the priest made the sign of the cross, first on the top of the bridegroom's head, touching it in four places, back, front, left, right, and then on the bride's, saying a lesson or a prayer during the ceremony. The tapers were handed to them in turn, and the other two to the father and mother. Then followed a long prayer and chanting, after which the young couple advanced into the middle chamber, followed by the onlookers. Incense was burned in a censer, waved by the priest, prayers read, and the Bible held to the bridegroom's and bride's lips to kiss, more prayers, in which the word 'Hhospodee' (Lord) constantly occurred, and then two gilt crowns were brought, the sign of the cross made with them on the top of their heads, and then they were put on. Then again prayers, and then wine was given in a silver dish to the bridegroom, held to his lips by the priest, and then to the bride, then to the bridegroom and again to the bride, each drinking four times, the bride finishing. The cross was then kissed, and the father and mother kissed the Bible, and lastly the bridegroom gave a kiss to the bride, and the ceremony was concluded.

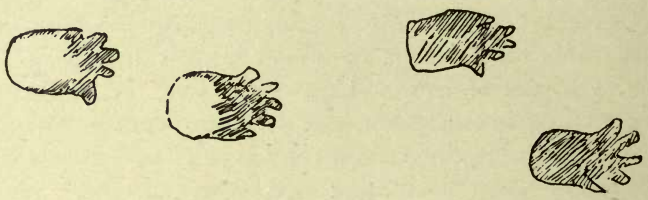
May 10.

Monday, the 10th of May, was a cloudy, warm day, the frost gone, and gleams of sunshine breaking through now and then. Seebohm and I sledged across the river and went to a more distant wood, where there was a mixture of alder, birch, willow, spruce, and an occasional

large larch, but in it we found no birds save a pair of Marsh Tits, which we shot, a great Black Woodpecker, which we heard, and we saw four small Geese fly overhead and as far to the northward as we could watch them. These last appeared to be small, dark above, and very light-coloured underneath. We had a long trail on snow-skates through the woods and came back by the willow island. Here our eyes were gladdened by seeing seven or eight Shore Larks, four of which we shot. Two more Geese kept circling round, evidently wishing to alight where the melting snow had formed little pools of water, and part of the land was left bare. Afterwards, when we crossed the island, and Seebohm went in pursuit of some of the Shore Larks, they rose from the island, and one flew away north, and the other, wheeling round to our left, flew again to the southward.

At the same time a large white bird, which we did not at first make out from its gull-like flight, flew away to our right across the river towards Ust Zylma, and alighted about half-way across. We went in pursuit, but it rose far out of shot, but again alighted among the stranded boats on the sandbank nearly opposite the churches. A second time he arose at our approach, and flew away high over the town towards the high ground above. He was a large Owl, but at the distance it was not possible to say whether Snowy, Ural, or Lap. His flight was like that of a Glaucous Gull, but sometimes he skimmed along with motionless, extended wings; and until he rose high to go over the houses, he followed the inequalities of the snow-covered sandbanks and ridges on the river, never rising more than twenty feet above its surface. The wings appeared sharper and longer in proportion to his body than those of, for instance, a Tawny or Barn Owl. I examined his footprints on the top of a hummock of snow, and they were very large, the middle toe being

quite three inches in length.* Coming down to the riverside from the forest, we came across the tracks of a large and a small bear, pretty fresh, and we are inclined to think they were made as lately as last night, before the thaw of to-day commenced. The peculiar shape, like a man's naked footprints, and the long stride—about 4½ feet, and the longest quite 5 feet—left no doubt on our minds as to the animals that made them. I roughly



sketched the footprints and their relative positions, and the accompanying copy may serve to give some idea of them.

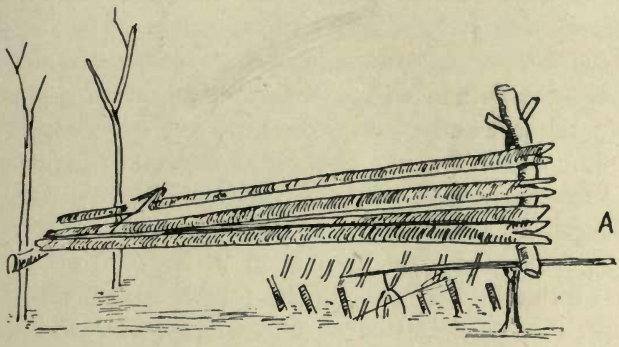
Allowances must be made for the effect of the thaw, taking off the exact imprint and rounding the edges. The imprints of the two first, when fresh, ought to be complete, *i.e.*, of the whole foot, while those of the hind or second pair should be only the imprints of the ball of the foot and toes.

Sometimes the tracks of the two—old and young—joined, but more frequently the young one seemed to have diverged for a space, sometimes as much as fifty paces, and returned, The tracks followed the course of a small river, about three versts from Ust Zylma.

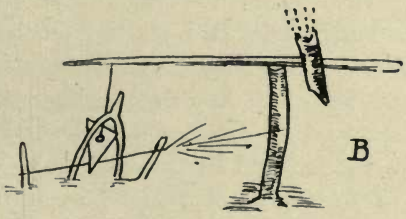
During our ramble we found another heavy trap set and baited, apparently for Hares, as all round the branches had been nibbled and the bark removed. Afterwards we

* This was probably the Snowy Owl brought in to us two days later (see p. 297).

learnt that these traps were set for Squirrels, and not for Hares. The trap was baited between the staked sides or ribs with hay and a fresh twig, and it was so arranged that if the animal either pushed or trod



upon the bushy end of the twig it would displace the triangular piece of wood held down by the arch, and the spring flying up, the whole of the heavy roofing would fall on top of the Hare. We wondered rather that Petchora Hares could be so foolish as to enter such a conspicuous fall-trap; scarcity of food, no doubt, compels them. They are principally caught for their fur, as none of the people here eat the flesh—'*unclean*,' these Old Believers say. So we had thought when we found it.



A year-old Bear was killed by the woodcutters lately, and we got half of it—one side, hind and fore quarters. Our first cut was a part of the saddle baked, and most delicious meat it is, juicier than beef, and sweeter, with a slightly gamy or spiced flavour.

May 11.

On Tuesday, the 11th of May, we had a north wind, but still a rapid thaw and very warm in the sun.

Accompanied by the postmaster, who is reckoned a great *chasseur* we sledged across the river and a few versts up the Zylma, and then went on snow-shoes to look for Wild Geese on an undulating meadow interspersed with willows, where the thaw had already cleared patches of ground here and there. Geese we saw in plenty, flying round but not alighting, though at one or two places we saw their footprints. On the little bare patches on the rising ground we found some stamps set, similar to those already described (see figures on p. 294). Two Swans flew overhead near enough to tempt me to fire, but though the slugs rattled against the feathers, the one I hit seemed quite unhurt and flew on.

Coming home we stopped at the island, and Seebohm shot two Shore Larks, and I killed a ♂ Merlin higher up the river.

Close to Ust Zylma five or six Gulls (*Larus fuscus*, or possibly *L. cachinnans*)* were flying about a little lake which had formed on the ice, and a fine large Sea or White-tailed Eagle settled within fifty yards of our sledge, and Seebohm fired with slug without any visible effect, save that he again alighted about 150 yards further out on the ice, and I tried a bullet at him after.

I fired also at a fine Raven, not more than 50 yards out, without effect.

The snow was very soft in places, and it was heavy walking even in snowshoes, and I again smashed one

* At the examination of our skins made at Sheffield by Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm, in September 1875, the verdict arrived at was, that these Gulls were not *Larus leucophæus*, because the mantle was too dark, and the second primary without the white spot.

of mine—the *right* foot this time—the centre going down into a deep soft part, and the two pieces sticking up at an angle of 45°. I also lost a silk handkerchief, and Seebohm his knife. '*The troubles that afflict*,' etc.

This evening Piottuch and M. Znaminsky went off on a Wild Goose chase, and to put a little wooden house (near the ground where they come to feed) in a habitable condition. If the weather is fine we follow the day after to-morrow. There is a wood at some distance from the Goose-meadows, said to be good for Woodpeckers.

May 12.

On Wednesday, the 12th of May, we had bright sunshine, warm east wind, a rapid thaw, and the sun with a wide halo round it; which in the afternoon was followed by a steady soft rain.

After breakfast Seebohm and I turned out, and went along the river to the north, shooting some birds, the first vanguard of the great migration. Two White Wagtails were shot on the roof of a house, and also a Redstart; a solitary Meadow Pipit was dodging and trying to hide amongst the manure in one of the fields, and we killed one of two Shore Larks and saw two Merlins. The Gulls were again at the waterhole below the town.

This morning a Snowy Owl was brought in to us, in all probability the bird we saw on the 10th. A large bullet-hole was made in it close to the shoulder, and it had been partly eaten by some bird, most likely a Hooded Crow, but a skin can still be made of it.

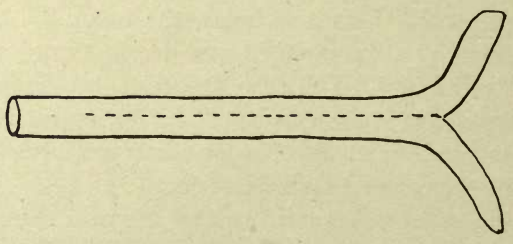
Seebohm went out again, before the rain commenced, towards the south, saw a large flock of Shore Larks, and shot one, and took seven eggs from a Magpie's nest. He saw three more White Wagtails in the little village, and one Black-headed Gull.

Snow Buntings and Redpolls have almost disappeared. Of the former we saw only two flocks, one in the morning, with about thirty birds, and Seebohm one in the afternoon, with about a hundred. Of Redpolls we saw none, unless two small birds which flew rapidly overhead belonged to this species.

Two Tortoiseshell Butterflies—the Small one (*Vanessa urticæ*)—were seen, and insects were not uncommon. As Alston said of the approach of summer in Norway, so here also it appears to be going to 'burst upon us like a rotten egg.'

Some portion of the manure in the town is being sledged away. Ust Zylma has already undergone a change in its appearance. Little runlets have been cut or formed by the inhabitants to carry off the melted snow and part of the impurities which have accumulated during the winter. Piles of cut firewood are heaped up against the houses, or in the yards—billets about 1½ feet long, cut and split by the axe from fine large larch spars, which it seems a shame to use in such a way. House-building, too, is going on, squaring and notching the beams, and morticing them in their places.

Boat-building, or rather, the hewing out of the great



keels from the solid trees, is being prosecuted. A giant larch is usually chosen, and root and stem sawn through from end to end, the root being double, or extending out-

ward on both sides the tree, and thus two keels are made from the same tree. Other trees are sawn by the peasants into planks, the heavy stem being first hoisted into position, or worked up by leverage, upon a support high enough to allow a man to stand and use the long saw underneath, the other man standing upon the spar itself.

Fishing-nets are now hung out to air, and the boats, up to this time all but buried in the snow, are being dug out, so that they may be easily removed out of the way of the water when the flood comes.

The town has the appearance of one large carpenter's yard, built upon a great dung-hill.

May 13.

Thursday, the 13th of May, the wind was north, but it thaws hard with rain. It cleared about ten o'clock, and Seebohm and I tried along the shore to the south. We fired ineffectually at Shore Larks, two Merlins, and a ♀ Hen Harrier.

We are now thoroughly convinced that our cartridges are too lightly loaded, or, what is also very probable, that

RUSSIAN BONE POWDER MEASURE.

the powder has deteriorated in the cartridges during the journey when the frost was keenest. Our guns were covered with frost, and sweated abundantly when brought into a warm room, and in all probability the frost has penetrated to the powder in the cartridges also.

Piottuch returned in the evening with a fine Snowy

Owl and three Shore Larks. All of the latter we have as yet obtained have turned out males!

The birds new to our list we have seen are a Peregrine Falcon and five Ducks (?) and a ♀ Hen Harrier; and we also saw a second species of Gull, light-backed like a Herring Gull, and doubtless of that family!

We shot also an almost perfectly mature ♂ Snow Bunting. They are still flying about in flocks, which latter, however, are not apparently so large now. We had 2° Reaum. of frost again to-night.

May 14.

Friday, the 14th of May, was a bright, sunny day. The pools of melted snow were hard frozen, but the runlets were still open. The wind was cold and from the east.

Piottuch saw to-day a Common Snipe and a great Black Woodpecker.

To-day a grand expedition was planned against the Geese, and a party, consisting of the Priestoff, M. Znaminsky, the postmaster and Piottuch, Seebohm and myself, started in three slegdes for a spot about 24 versts up the river along the Ijma road, which has the reputation of being 'bolshaì dobra' [big good, or very good] for Goose.

When about half-way—the road is over the frozen surface of the Petchora the whole way—two Swans were spied by our yemstchick sitting close in towards the shore. M. Znaminsky and the postmaster—*les deux très grands chasseurs* of Ust Zylma, so dubbed by Piottuch—started in pursuit in the former's sledge, approaching them in the first sweep of a circle; but the birds rose wild, and only a flying shot with the rifle was obtained. They flew across the river, and, wheeling round again, alighted on the ice, and this time both Znaminsky's and the postmaster's sledge went in pursuit,

approaching in the same manner as before on different sides. Sitting shots were obtained from the latter, but without effect.

Waiting on the road for their return, Seebohm and I, feeling it cold, '*thought to 'herselves they would pe the petter of a wee drap of cognac,*' and accordingly the better to enjoy it, while also watching the chase, seated ourselves on the back of the sledge, with our backs to the horses. Seebohm was just in the act of '*beginning to taste*' when the yemstchick, likewise bent on enjoying himself, blazed off his rifle. Off bolted the horse and sledge minus Messrs. Seebohm and Harvie-Brown—worthy Ibises—who were left stranded in a most undignified position on the snow, staring at one another, first with utter and blank astonishment, and then in speechless laughter. We were sitting bolt upright on the snow with our feet pointing to the west and our horse's head to the east, and the yemstchick, unable to behave himself in a regretful or silent manner, seemed to be seized with a violent fit of unutterable giggle. The situation was indeed 'tooral-looral.' Wonderful to relate, very little of the cognac was spilled in a wrong direction, and most of it found its way to its originally-intended destination.

Arrived at our Goose-ground, we drew up our sledges, and had tea and cold meat, etc. Our camp was on a rising ground, and in the vicinity were certain small pools of surface water and melted snow, where the Geese are supposed to alight to drink in the early hours of the morning.

About 11 p.m. each chose a position at the different points of 'vantage,' and the yemstchicks, with a wooden spade and an axe, prepared our 'caches,' digging out a hole in the snow three or four feet deep, piling up the snow on the edges, bushing it round with willows, and lining the floor with a little dry hay.

We returned again to camp, and had more tea, pipes, papirosse; and M. Znaminsky—quite a ton of a man—and Piottuch had a race on snow-skates. About one o'clock we repaired to our 'caches,' and made them as comfortable as we could for a couple of hours' sleep—or otherwise. My 'cache' was on the bank of the Petchora, amongst willows. On one side an open hollow ran inland almost parallel with the river, and up which it was expected the Geese would fly low to some surface water higher up, where M. Znaminsky was posted.

On my other side was the great river, and before me an open space also presumed to be a good place for Geese to pass. I faced the east and the rising sun. The night was frosty but not cold, and I was well wrapped up in my màlitza, fur cap, and Cordings long waterproof boots, and I had also a rug and ground sheet.

Seebohm was posted at the lower end of the hollow on my right, opening off the river and about 250 yards from my post; and M. Znaminsky was about the same distance above me.

It was light all night, light enough for me to write up my journal in my rough note-book, keeping a bright look-out for the expected Geese at the same time.

May 15.

The first bird in the morning of Saturday, the 15th of May, to sound a note was a Hooded Crow, *sinistra ab ilice cornix*. Next, after such a favourable prognostication, my expectations were raised by hearing the trump of a Swan, to the southward beyond the forest of low, mixed birch and alder, but he never showed.

The sun rose at four minutes to three, topping the steep mud bank of the far side of the river, and the sky prior to its appearance had a deal of rich colour about it —crimson, lake, and gold.

Simultaneously with the rising of the sun a small flock of Redpolls passed overhead, flying against the wind, uttering their twittering notes, or the single fine-drawn musical 'dzui.' Then another Hooded Crow flew croaking overhead, and four or five duck (sp.?) flew hurriedly up the river. Then soon after I heard Seebohm fire a single shot, and again all was silent. Fourteen Gulls with steady flight passed overhead up the river, and many parties of Redpolls, all flying in the same easterly direction, passed also at a considerable elevation, their various notes sounding, however, distinctly in the clear air.

The following attempts to write down their (the Redpolls') notes were made on the spot after repeated opportunities were given me :—

Dzü-dzü: dzü: dzü-dzü, or a single dzü-ü—long drawn out.

Or sometimes simply dzü : dzü : dzü : repeated at regular intervals.

Also a harsher note, dzuz-z-z-z.

The clearest, most musical note dzui, and a trill l-r-r-rui, lrui, dzü.

Clouds overhead light and fleecy—carded wool against pale blue—drifting slowly to the west. Two Geese flew down the river from the east, 'gugh-gugh : gugh : gugh-gugh.'

Seebohm paid me a visit about 5.30 a.m., and returned again to his 'cache,' arranging to come back at eight or nine to camp for breakfast.

I was engaged in drawing a portrait of a friend—M. Znaminsky—in 'luije' and 'savik,' when 'gugh-gugh, gugh' sounded nearly overhead, and I had just time to seize my gun and fire, managing to pull down one out of seven Bean Geese.

M. Znaminsky came to see what I had got, and politely removing his cap, said something complimentary which I did not understand at the time.

We remained some time longer in our holes, and M. Znaminsky got one or two long shots, but nothing more was bagged, and after breakfast we started for home again. Seebohm, who had been roaming about in the woods behind his 'cache,' had killed some birds, viz., two Marsh Tits and two Reed Buntings, and one White Wagtail.

Our journey back was a terribly slow one; the peasant's horse we had hired was quite done up; simply, I believe, from want of good food, and we took six hours to the 24 versts. Rain came on too, and we got everything soaking wet. Seebohm shot fifteen Shore Larks on the way.

In the evening we sallied forth again, both barrels of our guns charged with slugs, and fired into about two hundred Gulls sitting on the water-covered ice, killing two, a dark-mantled, yellow-legged Gull (*L. cachinnans*) and a Common Gull (*L. canus*). There were by far more of the latter in the flock than of the former, and their cry was—as with us in Britain—clamorous and impatient.

The following is a description of the soft parts:—

LARUS CACHINNANS, Ust Zylma.

Bill. Straw yellow with large vermilion patch on the angle of the lower mandible.

Inside of mouth same colour as the bill, with a tinge of orange at the angle of the gape.

Eyes. Pupils blue-black.

Irides. Pale straw yellow.

Round the eye. Orange.

Legs. Straw-yellow; nails dark horn, nearly black.

LARUS CANUS, Ust Zylma.

Bill. Gamboge-yellow.

Inside of mouth and angle of gape, vermilion.

Eyes. Pupils blue-black; irides grey; round the eyes vermilion.

Legs. Gamboge; nails dark horn, nearly black.

OTOCORYS ALPESTRIS.

We examined carefully-sexed samples and found the following differences between the males and females.

♂	♀
Trifle larger.	
Wings much longer, in one pair examples nearly ½ inch.	
Bill larger.	
Yellow on head more brilliant.	
Head and neck and rump and whole bird pinker.	
Horn-like feathers more conspicuous.	
(One ♂ much more darkly streaked on head than other males. No. 155.)	Feathers on crown of head and nape with dark medial stripes, and feathers on the sides under the wings also much more darkly streaked.

May 16.

On Sunday, the 16th of May, we dined at M. Znaminsky's on the Goose, etc., and I was again congratulated freely on the great feat of slaying a goose. In the evening Seebohm and I went on to the river, wading in slush and snow up to our knees, but kept quite dry in our excellent Cording's boots.

I stalked a splendid Snowy Owl sitting on the prow of a boat, and fired, but at too great a distance. Afterwards I fired at two Swans, Gulls, and an immense flock of

Ducks, but all at long distances. There were quite five hundred Gulls of the two species already named and about 150 Ducks.

Piottuch told us he saw two Jackdaws at the church to-day.

May 17.

On Monday, the 17th of May, the new arrivals were the Rook, Red-throated Pipits, Golden Plovers, Yellow Wagtail, Fieldfares, Chaffinches, and Redwings.

We went out behind the town and waded in mud and manure and snow along the face of the hills. Seebohm shot three Shore Larks, two ♂ and one ♀.

Shortly afterwards a number of Red-throated Pipits * flew over my head, the fawn colour showing distinctly in the bright sun, and one alighting on a heap of manure, I shot it. During the rest of the time we were out we saw great numbers, in flocks or pairs, or singly, flying almost invariably against the south-east wind. Occasionally they perched on the ground or on heaps of manure, but were shy and difficult to approach, and we did not get another example. They far outnumbered the Meadow Pipit, of which we shot two examples, and were much the wilder species. They rose quite a hundred yards off, darting upwards after the common practice of Pipits, and generally flying straight away; whereas the common Meadow Pipit sneaked about amongst the manure heaps, and seemed much more desirous of concealment. The specimen of the Red-throated Pipit I shot was in the act of

* *Anthus* references :—

In the 'Ibis,' 1874. *A. cervinus.* Lord Walden, description, p. 141. Also Brooks, p. 460, doubts the identification.

In the 'Ibis,' 1871. *A. cervinus.* Hume, Verreaux, distinction between *A. rosaceus* and *A. cervinus* doubted, p. 35. Tristram, p. 233, separates the Eastern and Western forms of *A. cervinus* and *A. rosaceus.*

singing. The single note of the latter is easily distinguishable from that of the allied species; *weaker* and more plaintive.

Soon afterwards a small party of Golden Plover came wheeling round us, and I succeeded in dropping one, and we saw numerous other small flocks, one of which I whistled round us, but we did not succeed in bagging any of them.

A considerable flock of Fieldfares and Redwings, the former the more abundant of the two, alighted on the skirts of the pine-wood, and we had a severe struggle in vain through deep snow after them. A Chaffinch flew close over my head as I was turning out the snow from the tops of my boots, and I again heard him afterwards. Seebohm identified a Yellow Wagtail, and a peasant brought in a Rook with a much-smashed wing.

In the town to-day were many White Wagtails. Only one small flock of Snow Buntings was seen, consisting, I think, of about a dozen birds.

May 18.

On Tuesday, the 18th of May, the new arrivals were Lapland Buntings, Teal Ducks, Whimbrels, Pintails, and House Sparrow.

Out behind the town this morning Seebohm shot a ♀ Lapland Bunting out of a flock of Shore Larks, and throughout the forenoon we found them abundant, generally flying in company with Shore Larks, but distinguishable from the latter on the wing by their thinner bodies and the more rapid motion of their wings. We shot three other examples, all males. The alarm-note is two-syllabled (the second shorter than the first) and liquid.

We bagged two more Red-throated Pipits, which were as abundant as they were yesterday, but no tamer. We also killed a female Hen Harrier, three Whimbrels,*

* The only ones we met with.

which I whistled round and which alighted within fifty yards of me, a Fieldfare, a Marsh Tit, a Teal Duck, and two ♀ Shore Larks. We have now almost enough of of the males of the latter, and wish to make up our series of females. We identified Pintail Ducks which flew overhead almost within shot.

We saw one flock only of Snow Buntings, apparently principally females, and only one Merlin. The great body of the males of the Snow Buntings seem to have departed, and doubtless have been followed by the females. I found at several places—three, I think—the tail and other feathers of Snow Buntings, evidently slain by a Hawk, and the other day when Seebohm killed and wounded a number of Shore Larks a Merlin dashed down in pursuit of one of the wounded.

The sun was bright and the air refreshingly cool—the wind light from the north-east. It was very warm in the evening.

We have not said much about our dinners, etc., and as to-day's was remarkably good we may perhaps be forgiven if we *haver* just for a few lines anent the same. The first course consisted of soup of Bear's meat stock, cake Whitehead's Julienne, and handful of Delrien Pernond & Cie.'s 'La printanière légumes de choix assortis,' Lyons. I record his name and that of his Company with feelings of gratitude—*prince* of vegetable preserves. The second course included joint of Bear, joint of Siberian beef, tongues of Reindeer; adjuncts—white bread and whiter? (but sweet) butter. The third course was rice and milk—the rice beautifully done—seasoned with cherry-brandy, or 'Punsch-Extract,' as upon the label.

After this most excellent meal I loafed out into the yard with my stick-gun, and potted a female House Sparrow which has its nest amongst the ornamental wood-carving of the house. These birds, though so near,

have long bothered us, and we cannot think that there are above a very few pairs in the town. I thought I had seen them before at this same place and neighbourhood, and always felt more than half convinced they were House Sparrows. Seebohm afterwards killed two males and two females, all within a circle of less than a hundred yards round M. Znaminsky's and M. Bouligan's houses, which seem, as far as observed, the centres of attraction for the species. The males are handsome, with the feathers of the back and wings and the chestnut on the sides of the head and the top of the shoulder very bright and clean, but they are not as handsome as some we saw at Archangel.

To-night we left to join M. Znaminsky and M. Sacharoff, the postmaster, at the *petite maison* (*a la* Piottuch) at the Goose-and-Duck ground at the other side of the river, six versts from Ust Zylma.

May 19.

On Wednesday, the 19th of May, the new arrivals were Greenshank, Curlew, and Shoveller.

The wind was east or north of east with bright sun. There was a great change in the appearance of the Petchora, and still more in that of the Zylma. Looking down the great river as we were crossing it last night, it seemed vaster and calmer, if possible, in the still night; looked like a great limitless desert or plain towards the north with a wooded oasis or two (islands) on the horizon. Scarcely any snow remains on the surface, and large lakes of snow-water lay here and there, those near the shore fed by considerable streams and runlets from the high ground behind the town.

But the character of the Zylma ice was, to say the least of it, suggestive. Waterholes were not scarce, wells of water bubbling up through cracks and thin places, like springs, and large surfaces in consequence covered

with water. Sometimes the men had to go ahead to see if the ice was safe before taking the horses over.

The road, formerly a hollow (or level, in places, with the surface) now looked like a liliputian chain of mountains, crossing the Petchora, and winding up the course of the Zylma, and instead of bumping over its uneven course we crossed and recrossed it searching for firm ice.

The river certainly looked bad, but then M. Znaminsky had provisioned himself for ten days' shooting, so he at least could not suspect an early break-up; not having sufficient experience in ice, and its nature ourselves, we naturally trusted in theirs.

We arrived at the house at 3 a.m., and after a couple of hours' sleep I went out to the left of the house down the river Zylma. I shot two ♂ Lapland Buntings which were in company with Shore Larks and two Meadow Pipits, the latter whilst perched in alder and willow trees. They were perching freely in the trees—birches, alder, and less frequently the willow—both flying up from the ground, or from tree to tree, or rising in the air and singing like a Tree Pipit, descending again in exactly the same manner as practised by the latter bird. Seebohm, who went in another direction, witnessed the same thing, and shot two in the act also. We are equally surprised, as when we first saw the Buntings perching, but the habit appears to be perfectly well known to Piottuch, who, previous to our shooting them, had told us of the habit. We have since come to the conclusion that these Pipits are not true *Anthus pratensis*, but the young of last year of *A. cervinus*.*

* On the examination at Sheffield in September, 1875, of our collections, made by Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm, these tree-perching Meadow Pipits were considered *not* to be *Anthus cervinus*.

Hancock ('Cat. of Birds of Northumberland and Durham,' p. 59)

The Meadow Pipits appear to be abundant at this side of the river, and were going in flocks and small parties. Of the Red-throated species I only saw three, and these, as before observed, were flying against the wind at a considerable elevation, the early sun, however, showing the fawn colour distinctly.

I identified an old friend—a Greenshank—high overhead, and whistled him down, but not to within range. Pintails were most abundant, and were seen in immense flocks—hundreds, and even thousands together—winging their rapid flights from their feeding-places to the opener pools and streams on the Zylma and Petchora Rivers.

I identified also a fine male Shoveller showing his bright chestnut breast as he flew over against the sun-rays. He was in company with some ten other Ducks which may also have been of the same species, and probably were so, but I did not identify them. I should have had a good shot, but just at the time—how often does some such accident prevent a good shot at dusk—I had laid my gun against a tree-stump, and was hitching up my long boots, one of which had stuck between two branches under the snow and had been nearly pulled off.

I came in to breakfast. Seebohm, who had started earlier than I, had not much luck either. He shot Meadow Pipits in trees, and one had just been singing before. He shot some and saw many Reed Buntings, and saw Lesser Spotted Woodpecker.

We had a long fruitless tramp afterwards in search of small birds in the mixed alder, birch, and willow woods, M. Sacharoff accompanying us. We saw three of the Common Gull, perched on the topmost branches of an

says: 'This species (*A. pratensis*) is closely related to *A. cervinus* of the Continent, which some of my specimens resemble so closely, that it is almost impossible to separate them.' See also Irby's 'Ornithology of the Straits of Gibraltar,' p. 110.

old birch—wonders never cease! A Peregrine Falcon sported overhead, and Redstarts were seen for the second time.

Piottuch, who had started along with us, was bent on *la chasse aux canards*, and when we met him in the evening he had bagged two Pintails, and I afterwards got another.

Four swans flew down the river, and with my binocular (one of Steward's, the 'Duke') I could make out that the feet were black, or dark-coloured, and that the birds were large. Thousands of Ducks were scurrying through the air in every direction, and we believe that there were few others but Pintails. Every bird that came within identification-range was of this species, except the above-mentioned Shoveller. Few Geese put in an appearance.

In the evening—later—Piottuch and I sallied forth to the same place expecting some sport at flight-time. I took up my position in perhaps the best spot in the whole meadow, if I judge by the number of shots I got and the regularity with which Duck passed the place.

The meadow is 1½ versts long and about half a verst wide (including the long slope from the level down to the Zylma). At the west end, on the higher plateau, stands M. Znaminsky's 'shooting-box.' Round it on the landward side is slightly higher ground still, faced by a bank about 15 feet in height. At the foot of the bank, all the way round, is a hollow forming a 'kouria,' or backwater, when the river is in flood, but at present filled with snow, snow-slush, and snow-water, 2 to 3½ (or more) feet deep. All over the meadow there are similar dips and hollows, covering from 50 square yards to an acre. Studded up and down are old willow-trees, many with living branches, but far more dead and branchless, the weird contorted stumps alone remaining. Round those that stand in the hollows, slush and snow has accumulated, but round

those on the rising grounds between are patches of short reddish-brown turf easily trampled into sticky mud.

Behind the bank to the north stretches away a great plain between the Zylma and Petchora Rivers, covered with forest and swamp, overgrown with alder and willow and birch, from which the occasional half-formed song of the Redwing is heard.

Between the level and the river is a long slope, upon which, and on the shore, and on the snow-covered ice and open patches of water, the Ducks were crowded in countless thousands when we arrived.

Beyond the river are low-lying willow-swamps extending for miles to the south, backed by pine-wood. To the west pine-woods appear, and the sweep of the Zylma issuing from them in the distance; and nearly due east—three versts off—is the high land behind Ust Zylma, the horizon capped with pine-wood.

On a still morning, with a gentle easterly breeze, the sound of the church-bells in the town was distinctly heard.

Such is our ducking-ground, as written down on the spot, before the flight of Ducks commenced. Little did we dream of the change that was to take place in less than twenty-four hours.

I chose my stance behind an old willow; two thick arms broken and bent to the ground, about the level of my head, afforded excellent concealment on two sides, and behind me I bushed up the spot with branches. My malitza I turned outside-in, and strapped tight round my chest, to smoothe down the wrinkles at the shoulder for ready shooting. The colour of the reindeer fur was wonderfully adapted to the surrounding ground, almost exactly agreeing with the dark mud, the reddish-brown grass, and the smudged snow.

But notwithstanding this advantage I was soon obliged

to cast it off, as I missed ten or twelve shots straight off, partly owing to the difficulty of getting my gun up, and partly owing, as I afterwards found out, to my using too large shot, of which seventeen pellets only went to the charge. After I doffed my màlitza and took to using No. 4, I killed five Ducks—all Pintails—without more than two misses, and altogether I secured six Pintails and one Teal. Many more might have been shot, but we had regard for our ammunition. Piottuch shot three Pintails.

The flight continued all night, the fowl being constantly disturbed both here and at another meadow where M. Znaminsky and M. Sacharoff had taken their stances.

May 20.

On Thursday, the 20th of May, Piottuch and I came in about 3 a.m., and not feeling sleepy he gave me the history of his Samoyède skeleton (now at the Royal College of Surgeons in London), and his adventures in connection with it; and then we turned in for a couple of hours. Seebohm, who was sleeping when I came in, soon after turned out and did a good morning's work, returning at 9 or 9.30 o'clock with some good birds.

The new arrivals to-day were Wigeon, Goldeneye, Mallard, Willow Wren, Siberian Tit, and Three-toed Woodpecker.

Seebohm brought in two Siberian Tits, a pair, one Three-toed Woodpecker, and saw also the Wigeon, one Redwing, Redpolls, Reed Buntings, etc., and identified the Mallard * and Willow Wren.

At 9.30 or 10 o'clock M. Znaminsky called us outside; and seizing our guns we ran out, expecting some rare bird or a bang at an 'utka,' *i.e.*, *duck*, on the river. But it

* As we never afterwards met with the Mallard, and this one was heard, not seen, it must be erased from our list.

was even a more interesting sight than an 'identified' duck.

The fact was—*The Zylma ice was moving.* At first the ice glided on very slowly, but soon moved faster, and by eleven o'clock it was rushing past at the rate of at least two versts per hour. No great noise accompanied it, save a rushing sound as of a distant waterfall, but it conveyed an idea of steady, irresistible force.

The ice was broken up in masses of several tons in weight, and in places appeared to have been in violent collision before reaching this point, thrown up in huge piles upon the shore or floating majestically down. Occasionally a large floe drifted along in the midst like a giant raft, probably lifted bodily, by the rising water, from its former resting-place on some sand-bank, higher up the river.

Looking over the river to the far shore, or up or down, the river-basin presented the appearance of a great moving, closely-packed flock of large and small white- and black-faced sheep coming down a hollow, the confusedly-hurled blocks of ice, here showing their white upper surfaces, and there, their dark sides. But the absence of any crashing noise, and the silence even close to our feet, where the stream for a space ran past, took away considerably from its grandeur.

Lower down, however, as we had opportunity later of observing, there must have been a grand turmoil; huge blocks of ice forced up upon the shelving beach, and logs of driftwood, trees, and green pines, root and branch, wedged in amongst the floes and hummocks, some trees apparently standing in an almost upright position.

The river water rose rapidly; and partially dammed back by the accumulation of ice at the mouth, began to flow back into the 'kourias' and over the meadows.

It began soon to dawn upon the Russian *chasseurs*,

first that it was odd, next that it was a little serious, and then Piottuch with a long face said, '*Très mal chose, Monsieur.*'

All our baggage had now to be conveyed to another house lower down the river, at the other end of the now partially submerged meadow, in order to have it safely across a deep 'kouria' before it was too late. This was accomplished just in time, the baggage carried upon poles on our shoulders for 1½ versts.

A rapid back-stream now poured into the 'kouria' and flooded all our ducking-ground, bearing along with it masses of ice and snow. The ducks flew overhead and appeared in reduced numbers.

The whole of the willow-swamps on the far side of the river were under water by 4 p.m., and we sat anxiously awaiting the arrival of the men from Ust Zylma, who had gone back yesterday to save a day's work with their horses, with orders to return for us with five sledges. Of course, horses could not come, as we learned when at last the men arrived.

The force of the ice from the Zylma and the Pischma rivers (the Pischma having also broken up), had opened lanes of water along both shores of the Petchora, leaving, however, the centre still solid.

The men had brought a boat upon a sledge across the centre ice, and after tea and food we started to walk back, leaving our heavy luggage to come later, when a boat could reach the shore near the house, and leaving two yemstchicks in charge.

It was only when we saw the great turmoil on the great river at the mouths of the Pischma and Zylma that we fully realised the grand force which must have caused it.

We were ferried across the lanes of water, narrow at the west shore and broad at the Ust Zylma side, and

helped in pushing the boat and tracking it over the centre ice on a sledge.

We were glad to get back to our rooms in Ust Zylma, and perforce decided we should have no more Duck hunts nor Wild Goose chases *à l'autre côte de Petchora* as Piottuch calls it.

We got to Ust Zylma about eight o'clock and had tea with M. Znaminsky.

Wigeon and Goldeneye were identified among the Ducks before we left.

May 21.

Friday, the 21st of May, was St. Michael's, or St. Nicholas's day? Opposite the town the river is all open water, but it will be some time yet before our large boat, which is 80 versts up the river (20 versts from Ijma), can get down. The partial break-up extends as far as the eye can reach down the river, which is one mass and wild confusion of hurled and scrunched-up ice. I fear we have missed the sight, but no one told us to expect it, and I for one was nearly done up for want of sleep in the past two nights, not to speak of irregular meals.

The new arrivals to-day were Bewick's Swan (identified) and Wheatears.

This morning we had an opportunity of examining a Swan's head, and by a comparison of it with descriptions and plates kindly prepared for us by our good friend Mr. E. Hargitt, we made it out distinctly to be Bewick's Swan,* though the measurements are rather large. We have kept the skin of the head and the bill, and taken measurements of the wing and the middle toe. A smaller swan is spoken of as breeding at, or being brought from, the other side of the Ural to the markets at Piñega, but we want still more definite information on this point.

The middle toe of this bird is $6\frac{1}{10}$ inches. The wing

* These however were really *C. musicus*, see p. 406 *et seq.*

from the carpal point is 23½ inches. It appears to be a young bird, from the ochreous colour on the head and cheeks (?) and slight greyness on the wings.

A male Wigeon was also brought to us, but was too poor a specimen for preservation.

Seebohm saw two Wheatears, ♂ and ♀, and shot three ♀ Shore Larks and one Lapland Bunting.

May 22.

On Saturday, the 22nd of May, the new arrivals were the Siberian Chiffchaff, the Skylark, Tree Pipit, and Stonechat.

We went out behind the town, but rather late in the day, and got very little. One bird, however, is good, which we made out at the time to be what Meves calls *Sylvia middendorffii*, specimens of which we had examined in the Museum in St. Petersbourg, where we took notes of wing formula, etc. (*q.v.*). Seebohm was of opinion that it may turn out to be *S. bonelli*.* The characters are as follows:—Large bastard primaries like *P. superciliosus*; second primaries quite ¼ inch less than longest; longer wing and larger than *P. superciliosus;* no yellow on this bird on the neck, though present in specimens at St. Petersbourg, but when present it does not come round the nape as in *P. superciliosus*.

We shot the Sky Lark and Tree Pipit.

When we came in some birds were sent round by M. Znaminsky, viz., five Blue-headed Wagtails, two Red-throated Pipits, one Willow Wren, one Stonechat, † and

* The birds were examined at Sheffield, after our return, by Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm, who determined them to be the Siberian Chiffchaff (*Phylloscopus tristis*, Blyth), and not *P. middendorffii*.

† When our skins were examined at Sheffield in September, 1875, after our return, Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm considered the Stonechat to be the Siberian form (*Pratincola leucura*, Blyth?); see Jerdon II. pt. 1, p. 126.

three Pipits (?) These last are rather smaller than the Red-throated Pipit (and are the same which we shot in trees), but come very near to them, though they want the *red throat* and *breast* of the latter. We have jotted down measurements and comparisons with true typical *A. cervinus*, *A. pratensis*, and *A. trivialis*, but await the examination of a larger series of each before forming a definite opinion.*

A Wheatear, ♂, was seen to perch on the top of a high pine.

May 23.

On Sunday, the 23rd of May, our new arrivals were the Short-eared Owl and the Bluethroat.

At 5 a.m. this morning M. Znaminsky took us to the place where he shot the birds yesterday—a marshy bit of ground covered with hummocks and overgrown with small pine and birch and brushwood of juniper, and dwarf rhododendron—Sedum—skirted by low willow and alder.

Here we found the Bluethroat not uncommon, getting three males. They were shy and rather difficult to find, and kept always flying on ahead of us. The opener parts of the wood appear to be suitable places for them to breed in. The first part of their song was a churring note something like a Whitethroat's, but not so loud, and the continuation reminded one of the song of the Tree Pipit.

Willow Warblers were common and in song, and were also rather wild, generally perching on the top of a small pine or bare tree.

A Short-eared Owl, searching for his breakfast, was

* Jerdon (Vol. II. part 1, p. 190) describes *Phylloscopus tristis* as follows:—Length, 5 in.; extent, 7 in.; wing, 2½ in.; tail, 2 in., tarsus ¾ in.; bill at front, nearly 9 mill.

Description: Above uniform dull brown, below albescent, with a

shot, attracted to within range by my imitation of a mouse's 'cheep.' He was skimming low over the tops of the trees.

One Blue-headed Wagtail was got, and one Red-throated Pipit, and three more of the perching Pipits, which we will for the present call *A. arborensis* (*?*). Measuring them, we find them again agree with those already noted, but a male is slightly larger than a female. M. Znaminsky and I each shot a Golden Plover out of a small party of seven or eight.

We went again to the same wood to try principally for Pipits, and bagged some Willow Warblers, a ♀ Blue-headed Wagtail, a Blue-throat, etc.

At another place, a deepish valley with much the same kind of wood growing in it, shot two ♂ Wheatears and another Siberian Chiffchaff, and had the satisfaction of hearing its voice and song well beforehand. It began with a 'chiff-chaff-chaff' and then stopped suddenly, the first time we heard it, and the second time it rapidly repeated the same syllables, running them into an actual song. Neither in this specimen is there any appearance of yellow on the neck, and we begin to think our descrip-

faint tinge of ruddy on the pale supercilia, sides of neck, breast, and flanks, axillaries, and fore part of the wing underneath, pure light yellow.

References to *Phylloscopus*:—

In 'Ibis,' 1874, *P. borealis*, Lord Walden describes the soft parts, p. 140. Brooks, p. 459, describes the wing-formula of this and of *P. magnirostris*, Blyth.

In 'Ibis,' 1872, *P. tristis*. Eggs mentioned as desiderata, Brooks, p. 31.

P. borealis in Alaska, Tristram, p. 464 (also see 'Ibis,' 1871, pp. 231–234).

In 'Ibis,' 1871 : *P. eversmanni* Bon. = *P. borealis*, Blas. = *P. sylvicultrix*, Swinh. = *P. eversmanni*, Bp. Also in respect of the Eastern *P. trochilus* = *P. icterina*, Eversm. See 'Ibis,' p. 109. Ditto pp. 231–234.

	Phylloscopus trochilus.	*P. borealis*, Blas. *P. sylvicultrix.*	*P. tristis*, Blyth.
Bastard Primaries	B.p.'s large	B.p's very small	B.p.'s very large, larger than *P. trochilus*
First long primary	1st l.p. equal to 5th, longer than 6th One from Gardaia ♂ has 1st shorter than 5th and 6th	1st l.p. between 4th and 5th	1st l.p. ¼ inch shorter than 2nd
2nd, 3rd, 4th, and 5th l.p.'s			2nd, 3rd, 4th, and 5th are about equal Winter specimens from India have more buff than our summer ones from Petchora
	P. eversmannii.	*P. lugubris.*	*P. magnirostris.* B.p. very large 1st l.p. equal to 6th B.p. larger than in one specimen of *P. eversmannii*
		P. magnirostris. 'Ibis,' 1874, p. 459, auct. W. E. Brooks	*P. borealis.* 'Ibis,' 1874, p. 459, auct. W. E. Brooks
		B.p.'s very large 2nd quill and 1st l.p. are equal to 9th Wing being much rounded	B.p.'s very minute 1st l.p. midway between 5th and 6th as in *P. trochilus* Specimens from China of Swinhoe's examined *P. sylvicultrix*, Swinh.

tion from the dried skins at St. Petersbourg must be faulty. The legs and feet are dark horn, the latter pale yellow underneath. Bill: upper mandible dark horn, under mandible paler. There is a very distinct pale streak over the eye, extending to the neck, and also in front of the eye to the nostrils.

The Petchora ice was still on the move, but silently, and for the most part in large floes. In the afternoon it got more broken up, but it still moved very steadily and silently.

May 24.

On Monday, the 24th of May, the new bird arrivals were Pine Grosbeak and Brambling. We added these two species to our list to-day.

The former species was not uncommon, and, before we got a good sight of them, rather bothered us to identify. We heard a rich thrush-like song on the opposite side of the valley behind the town, and a bird darted quickly past me which I thought looked like a small Thrush. Soon afterwards, however, birds were shot after singing, perched on the topmost twigs of the pines, and they turned out to be Pine Grosbeaks.

The song is a rich warble like a Thrush's first notes, intermediate between a Blackbird's and a Redwing's. The birds were easily approached and very tame. One was seen also upon the ground under a fir-tree, *hopping*, apparently in search of food, a habit I remarked before when Alston and I met with the species at Suzma, near Archangel.

Only one Brambling was shot, and one or two others heard. A Chaffinch was seen and heard for the second time. Two specimens of the Siberian Chaffinch were shot, but both, unfortunately, were lost. The notes, as nearly as possible, are 'chivet,' and then two notes of its song.

We also bagged a ♂ Stonechat * and a ♀ Blue-headed Wagtail. We also fired at a flock of Lapland Buntings passing over, and brought down a female. Those passing now seem to rest less than the earlier arrivals. The fields, upon which the manure is now all spread, seem to be almost bare of bird life. Pipits are still migrating, passing over towards the north and not resting much. Gulls have apparently disappeared, and the last we saw were on Friday last, the 21st. Snow Buntings are gone, and following them the Merlins; the last we saw of these two species were on the 18th. The last Shore Larks were seen also on the 21st, as we supposed, but this evening a small flock was seen just behind our house, in which also were a few Lapland Buntings, from which flock Seebohm killed two Shore Larks and one Bunting, all males.

May 25.

On Tuesday, the 25th of May, the only new arrival was the Crane. We were out at 5 a.m. again. In the morning there was thick mist in the valley and on the hill, and scarcely a bird was heard in the woods save an occasional Willow Warbler. All we got in the woods was one Bluethroat.

Coming home we found a flock of Lapland Buntings and another of Shore Larks, and bagged five of the former and four of the latter.

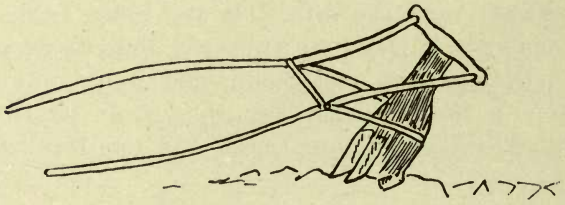
Afterwards we tried the valley where we got the Siberian Chiffchaffs, with no better success. We saw a flock of about thirty Blue-headed Wagtails, a Sea or White-tailed Eagle, and two common Cranes were seen flying steadily northward at a considerable height. One

* The form we obtained on the Petchora was correctly assigned to *Pratincola indica*, Blyth. See 'Ibis,' Jan., 1876, and also original appendix to same, p. 84, and as represented here—*v. infra*.

other Crane was seen by Seebohm on the 21st, also flying in the same direction.

The sun came out for a time in the afternoon, but all the woods remained unusually silent, and few birds of any kind were to be seen or heard. The wind was a little cold, from the N.W. Very little ice is to be seen to-day on the river, and the Zylma appears to be clear of it.

The peasants are busy ploughing, sowing, and harrow-



ing the ground, every day being now of importance in regard to preparing for their crops.

The plough in use is a most original-looking, clumsy, but apparently effective implement.

Although nearly all the snow has disappeared from the hillsides, sledges are still mostly used, and in the deep loamy soil they seem to be better for conveying the manure and farm implements than wheeled carts would be. A few carts were seen also, but they do not seem to be generally approved of.

May 26.

On Wednesday, the 26th of May, there was—in Piottuch's pigeon-French—*beaucoup de vent*, which it is reported may continue for a week. It blew from the north in the morning, but changed to west in the afternoon.

In the forenoon we did some marketing, preparing for our journey down the river:—

3 poods (36 lbs.) salt beef	8	roubles	57	kopeks
1 pood Russian butter, and boxes, nails, etc.	6	,,	50	,,
5 lbs. coffee at 55 k. per lb.... ...	2	,,	25	,,
1 lb. tea	2	,,	0	,,
Knife and fork	1	,,	0	,,
5 lbs. cotton-wool	1	,,	85	,,
Pepper	0	,,	75	,,

Afterwards M. Glàdoscheff, the Pasreydnik, or chief magistrate, called—we having called on him yesterday—and we exhibited our guns and etceteras. (M. Znaminsky is the head of the police, or Priestoff, and is not, as we for a long time believed, the Ispravnik.) M. Glàdoscheff is the judge to decide in matters of law for the peasants—*nisi prius*—and M. Znaminsky is head of the criminal department, and holds the same place in a small town as the Ispravnik does in a larger town.

We then went out for a little fresh air, taking our guns and not expecting to shoot much, but in the town and on the bank of the river we killed or saw the following new arrivals :—

Oystercatcher.	Green Sandpiper.
Barn Swallow.	Temminck's Stint.
Ringed Plover.	Little Stint.

Of these we obtained specimens of the three latter, also of the Blue-headed Wagtail. The waders were intent upon feeding, and we think they must only have very lately arrived. There were four of the Green Sandpipers feeding in a small stagnant marshy piece of ground with a pool of liquid manure in the middle, in the town; the other waders were on the shore, except one Ringed Plover, which was also shot at one of the pools in the town.

The Blue-headed Wagtails, ♂, appear to be bluer on the head than those we have seen in Norway on the Fjelds—not so black, but we must await a comparison of specimens before doing further than indicate what *appears* at present a difference. One female got to-day, and another obtained before, have not the slightest appearance of blue on their heads—probably immature—and a third has a considerable amount of blue. The yellow of the females is much paler than that of the males.

To-day there was again a good deal of ice coming down the river, which will doubtless impede the voyage of our large boat down from where she lies—80 versts from Ust Zylma.

May 27.

On Thursday, the 27th of May, we noted that there had certainly been an influx of Common Sparrows in Ust Zylma, and it is worthy of remark that they seem almost, if not quite, confined to a small portion of the town, namely, close round M. Znàminsky's and our houses. At all events we have identified nothing but Tree Sparrows in other parts of the town as yet. This morning we especially devoted our attention to them as we returned from a fruitless search for waders along the shore.

There was bright sun, but a cold wind from the northward. There was much ice again in the stream of the Petchora, and the river had risen quite two feet since yesterday. All the Ijma, Pisjma, and Zylma ice has long since passed down-stream. What is now passing is Petchora ice, and the Ussa ice has still to come, the Ussa being a larger river than the Petchora.

The steamer was expected to come up from Habarika on Sunday next, but possibly this ice may detain her, as it will doubtless detain our boat in descending.

In the afternoon Piottuch, Seebohm, and I went away along the river to the north, and then turned up the long valley which we noticed on a former excursion before the snow had gone. I fired into a flock of Lapland Buntings and killed one female. From the quick glance I had of them I think the most of the flock consisted of females, as black heads and throats did not show conspicuously amongst them.

We saw a Gull, which we thought to be the Common Gull, flying high. In the valley we heard various Blue-throats singing, and Seebohm shot one; also a small flock of Bramblings, of which we got two, ♂ and ♀ ; and two Siberian Jays, getting one. I chased and fired at a splendid cock Bullfinch (*P. major*), and Piottuch shot a Red-throated Pipit and a Stonechat (see *antea*, footnote). One other Stonechat and two Wheatears, both males, were seen, and on the way home we shot two Golden Plovers.

The valley looked capital ground for birds, and we felt that we must pay it another visit in the early morning. It is covered with pine-forest, with here and there birch (and a single large larch), and a 'trouty-looking' stream purled away under the trees.

In the town, at the same pool we saw them as before, we shot two more Wood Sandpipers,* which, as before, were very tame and intent on feeding, one of them alighting and sitting within six yards of my feet.

Away up the Petchora, as far as we could see, there was a great flood of broken, hummocky ice streaming down, and at one spot on the far shore it was stationary and piled up to a great height.

We found to-day a last year's Redwing's nest, containing four broken eggs, the colour of which was wonderfully fresh and green.

* The Wood Sandpiper has axillaries white, with dark bars; the Green Sandpiper has them black, with narrow white bars.

Piottuch bought one Peregrine's egg from a Samoyède, who said he found the nest, containing four eggs, on the ground. He broke the other three, unfortunately. Wolley, if I remember rightly, also found the nest of the Peregrine on a tussock of grass in a swamp in Lapland.

May 28.

On Friday, the 28th of May, we reversed our walk of yesterday, going up the valley where we shot the Siberian Chiffchaff, in vain search for more, and crossed over into the other valley. We had a long search for a 'Kooksha's' (Siberian Jay) nest, as the bird appeared to lead us away from a certain clump of lichen-covered spruce, but saw nothing of it.

While eating our sandwiches, two Pine Grosbeaks were secured. They were very tame, and were uttering low notes—recording their song—at the time. We shot them with half-charges of No. 12 shot.

A Fieldfare, a Bluethroat, and two Willow Wrens were all we got, and we only once heard the song of the Siberian Chiffchaff. A Merlin was seen flying northward at some height. I identified him with my binocular by his blue black, which showed as he, for a second or two, dived downwards and skimmed along the side of the valley against the dark pine-forest opposite.

The day was cold, but with bright sun, and wind northerly. Petchora ice is still passing in great quantities.

Last night we took tea and supper at M. Glàdoscheff's, and were in consequence not up this morning as early as we ought to have been. We did not go to bed till nearly 1 a.m. These late suppers are not the best precursors for a search after the Siberian Chiffchaff.

May 29.

Saturday, the 29th of May, was warmer, and with bright sun. Another fruitless search for the Siberian

Chiffchaff, resulting in Seebohm seeing one bird and hearing its alarm-note and making the observation that when silent it is an uncommonly active and restless species. It must be very scarce here, whatever it is where Meves found it.

Seebohm made some good notes on the song of the Bluethroat, which, next to the Willow Warbler, is the most abundant species of warbler in the woods here. They are generally distributed wherever suitable ground is to be found—in the opener pine-woods, where there is a thick undergrowth of juniper, and where the sweet-smelling rhododendron-like plant is growing (Sedum). Juniper, however, seems their favourite plant. The males perch conspicuously on the tops of the low pines (spruces), but the females are difficult to see, as they creep about amongst the juniper, and seldom perch high. By sitting down and quietly waiting, listening, and occasionally scanning the tops of the spruces through my glass, I succeeded in bagging three males to-day. As yet we have only seen one female.

We have, we think, nearly exhausted the bird-capabilities of Ust Zylma,* and are beginning to long for a further move down the river. But the ice still floats rapidly past on the river, and prevents us from even visiting the opposite shore, where amongst the birch and alder we might perhaps pick up another couple of Siberian Tits and a few Three-toed Woodpeckers, and possibly add another Woodpecker or two to our list.

Seebohm went out in the afternoon to the north end of the town, and in a small piece of marshy, hummocky, tundra-like ground, found a lot of Red-throated Pipits and shot ten out of the flock; and he also killed two Sandpipers, one Ring Dotterel, one Temminck's Stint,

* N.B.—Don't write up your journal in the middle of the day. Wait till evening.

and one Sparrowhawk, which had just slain and was devouring an unfortunate Sparrow.

He also distinctly saw two of the Red-throated Pipits perch on a small tree and sit freely along the palings, which is doubly interesting at present to us, as we are inclined to think that the Pipits we shot before, perching freely on trees, are the immature birds of this species, and not Meadow Pipits, as we at first supposed. The habit being common to the Red-throated Pipit and our (temporarily named) *A. arborensis* is in favour of their being of the same species, not to speak of the measurements corresponding (except in so far as immature birds would differ from adult). Both are larger than typical specimens of the Meadow Pipit, which we have also shot here, and measured. Or it is also possible that the *A. arborensis* may still be in winter plumage, but this would not alone be sufficient to account for their going in flocks separately and keeping—as they generally, though not always, do—apart from the Red-throated birds.

On examination of our series of Pipits—Red-throated and *A. arborensis*—to a certain extent we find them running into one another. The adult birds are much redder on the breast and throat, with fewest spots, and the fawn-colour more or less extends over the belly and under-tail-coverts. In these oldest, fullest-plumaged birds there is no, or scarcely any, trace of a moustachial line of spots. In what we take to be slightly less mature birds there are considerably more spots, and in some a *decided line* of moustachial spots, which, in still less mature examples, have the breast *thickly* spotted, and only a small patch of fawn on the throat, becomes strongly marked.

Now comes *A. arborensis*. In three of the specimens we have obtained there is a slight but still distinct shade

of fawn on the lower part of the throat, and in all the moustachial line of feathers is distinct and marked.

The feathers on the backs of the more adult, and indeed upon all the undoubted specimens of the Red-throated Pipit, have broad whitish margins, and the dark centres are more conspicuous; in other words, the contrast between dark and light is more marked than in the specimens of *A. arborensis*, which have the backs greener and want the white edging to the feathers. We were not yet able to arrive at a conclusion.

We obtained also two specimens of Toads, which were numerous in a little pool of water near the marshy ground and also in the pools in the pine-woods. These we put in spirits.

This evening there is much less ice on the river, and the water is gradually rising.

Our new arrival to-day is the Sparrowhawk.

May 30.

On Sunday, the 30th of May, with a strong, soft, 'southerly wind and a cloudy sky,' not a scrap of ice was to be seen on the river, and we set about getting boxes for birds, and expect the arrival of the steamer now very soon; because each day it delays, the rising of the river will increase the strength and swiftness of the current. The ice of the Zylma and Pischma broke up on the morning of the 20th of May, giving the first move to the ice of the great river, and the ice of the Petchora broke up and began to descend steadily on the 23rd. It appears to be all past now, but the Ussa ice has still to come. It passes Ust Zylma, however, in the form of '*brash*' *ice*, so will not interfere much with the navigation of the river. Our boat should arrive now very soon also, and our men will likely come from Habarika with the steamer.

The new arrival to-day is the Ruff. We bought a Ruff

and some Ducks' eggs and some Hooded Crows from a peasant. The Ducks' eggs are doubtless Pintails, but not being identified, we shall '*eat 'em.*' We also bought three young 'Kookshas,' or Siberian Jays, able to fly a little, and have kept one alive.

We saw the Russian village sports, the principal of which were leap-frog, trials of strength (two men holding a short stick and sitting on the ground and placing the feet together and trying who would pull the other over), a grotesque dance with a few neat steps, not unlike some of the steps of our Highland dances—Chartreuse and the Highland Fling—and a kind of game with ball like our schoolboy 'dumps.'

In the whole crowd of girls in their gay Oriental-looking rubákhas, and brightly-coloured scarf round the head, there was only one really pretty, and she would have held her own as a beauty in most countries.

The men, on the other hand, are for the most part fine-looking, strong fellows, and many are handsome, with light, fine yellow hair, blue eyes, well-shaped nose and ears, and expressive lips, and small, regular white teeth, good-natured and merry, always singing as they work; or rest in the evenings in the open air after the day's work is done.

Every peasant does his own carpentry and boat-building, and net-making and farming.

The land is apportioned or divided amongst the inhabitants every five years, and originally was bought by the village or town from the Government (or Crown, rather). The peasants all meet together when necessary to discuss any points, and no vodky is allowed to be sold on that day until after the meeting is over.

Every three years they appoint one of their number to collect the taxes, generally one of some standing as regards worldly wealth and other good gifts.

Certain parts of the shore, off which the fishing is good, is also allotted every five years along with the ground, and four, five, six, or seven peasants usually join together and divide the produce.

May 31.

Monday, the 31st of May, the new arrival was the Little Bunting.

We searched in vain for the Siberian Chiffchaff, and did not even hear a single note. Seebohm shot our first Little Bunting, and I our first *female* Bluethroat.

This was a beautiful warm day, with balmy, soft west wind; one of those sleepy, still days—warm, but with light fleecy clouds—which we have on the west coast of 'bonny Scotland.'

Seebohm shot another Little Bunting and a few other birds. We saw a couple of Wheatears perch on the top of the dome of the Church of the Old Believers, a somewhat unusual choice of a resting-place.

The steamer arrived this evening from Habarika, and after the ceremony of blessing her is gone through to-morrow, she returns again to-morrow evening, when we shall accompany her. She comes again to Ust Zylma the next day.

June 1.

On Tuesday, the 1st of June, we were present at the ceremony of blessing the steamer, not at all an impressive scene. The priests read and chanted on the quarter-deck, and then paraded the vessel, followed by Arendt and Captain Engel, sprinkling the deck, cabin, etc., with the holy water. Then after more chanting, etc., Arendt, the Captain, and all the crew were blessed, and their foreheads sprinkled with the water from a brush, and all the party then descended to the cabin and drank each a glass or two of wine, and smoked cigars. Thereafter we had an excellent breakfast at Arendt's house, at which

bear's flesh was served up beautifully cooked and partaken of with relish by all present. Captain Engel and the engineer, however, after they were told what it was, seemed rather disgusted, but the priest seemed to relish his, and did not seem at all put out. Seebohm and I were in the secret. It was stewed, and well done. Bear's meat must not be underdone.

The company present were M. and Madame Mirónoff, the two priests, a gentleman in uniform (who had come from Mezèn about a theft of silver buttons, etc., from the Pasrednik, and whom, not knowing his name, we simply dubbed 'the other chap'), Piottuch, the engineer, Captain Engel, M. Arendt, our host, and ourselves. M. Znaminsky and M. Sacharoff had not returned from the other side of the river, where they went to get food for their horses and to shoot Ducks, and M. Glàdoscheff, though invited, did not put in an appearance.

The new arrival to-day was the Common Scoter. On board the steamer I saw a Black Duck fly past, and settled in my own mind that it was a Common Scoter. It flew down the river against a north-west wind.

The fragments and remains of the Ussa ice floated past to-day, and the steamer had a good deal of dodging coming up yesterday. It appears to be all past now.

June 2.

On Wednesday, the 2nd of June, the new arrival was *Mosquito—oh!*

Virtue was at last rewarded early this morning. We got up at 3 a.m., and again wended our way to search once more for the Siberian Chiffchaff, and Seebohm was fortunate in securing one nice specimen, and fired at another across the stream. Afterwards I was sitting watching a White Wagtail building

her nest, when I saw a small bird perch, according to the usual habit of the Willow Wren and the present species, on the summit of a small pine, and identified him as another Siberian Chiffchaff, carrying a little grass or other building material in its bill. I quickly replaced my glass in its case, but almost before this was accomplished the bird flew quickly and silently down into the thicket. I crept forward and sat down on the opposite bank of the stream to watch for its reappearance, but an hour at least so spent, did not procure me another sight of, or a single sound from, the bird. I crossed the stream and searched the thicket—a clump of firs and juniper—without success, and Seebohm and I returned home soon after.

Seebohm bagged also one female Bluethroat, one Blue-headed Wagtail, one Willow Wren, and I two Wheatears and a Willow Wren.

The new arrival is the Mosquito, and if they are of the same species described by Mr. Rae, they are certainly deserving of the name and the description he applies.*

Few circumstances are so humiliating to the new visitor to the northern tundras of Europe than his first introduction to the principal inhabitants who dominate the whole region.

'Ping-g-gsz-z-z-z-zsink,' says Mrs. Mosquito, and then, gauzy transparent wings raised, she lights like a feather, and begins to her supper in silence.

'D——,' says the sleepy *vis-à-vis* and *host*—and slap!

'Ping-g-g-g,' replies the unwelcome guest, with an 'Io triumphé.'

'But I'm coming soon once more.'

This morning the wind was nearly south and warm,

* *Culex damnabilis*, Rae. Corpus ingens cinereum, pedibus duodecim anterioribus flavescentibus, antennis nigris, *proboscis infernalis venuto munita.*

and has brought the aforesaid—now-figured—imps of iniquity from their dens. Ugh!

After we returned eight fresh Duck's eggs were brought to us, and three young Ravens. We bought the former to eat, and one of the latter to prepare as a specimen.

M. Znaminsky and M. Sacharoff returned and brought us a few small birds, but nothing rare. They shot six Ducks.

Late this evening we went down to Habarika on the steamer, which trip took two hours for the 30 miles (40 versts). The steamer is now going at the rate of four miles an hour. Our course was winding or zig-zagging from shore to shore, and for fear of running on sandbanks only 10 lbs. steam pressure to the inch was applied.

The land on the west side of the river is flooded now almost to the base of the Timanski range of mountains, which, opposite Habarika, are about 50 English miles distant. The pilot told us that for 40 versts to the west the whole land is one sheet of swamp and water. The bank of the river is well defined, however, by the growth of willow and alder. Inland, at irregular distances, stand large trees or clumps of trees—apparently spruce—which have the tops conspicuously dressed and pruned to indicate the summer roads after the overflow has subsided, and which are visible over the undergrowth of willow, etc., at a great distance.

June 3, 4, 5.

Thursday, Friday, and Saturday, the 3rd, 4th, and 5th of June, were spent at Habarika, a little hamlet of about a dozen houses which stands on an earth cliff on the side of a 'kouria' or backwater from the river, and is generally safe from even the higher floods which cover the surrounding country. The land at and immediately sur-

rounding it is about 50 feet above the winter level of the river, which is then at its lowest level or nearly so. This season the floods have raised the level about 20 to 30 feet, but in exceptionally high floods, after the disappearance of the ice, a few acres of the open ground around Habarika and the village itself alone remain above water. On all sides the land slopes gradually away except on that facing the 'kouria' and the river, where it terminates in a steep earth bank. All the low-lying willow-meadows and other lower lands are now flooded, and the place where, little more than a month ago we watched the Samoyèdes lassoing their deer, and where their 'chooms' were pitched, is under water. All round Habarika is a semicircular piece of land cleared of timber and tilled for grain and other crops. Surrounding this at the distance of a quarter of a verst or less, fine forest of pine, spruce, and old larch flourishes, with undergrowth in places of alder and willow.

Some parts of the forest are open, especially those where pines only appear to exist, and where a few old trees have been left uncut, and a younger growth has sprung up. Here there is a soft carpet of Reindeer-moss, thickly sprinkled with crowberry, cranberry, and bilberry plants. All over these opener parts also lie the bleached and barkless and decayed stems and branches and fragments of old pines. So thickly do the latter cover the ground that it is often difficult to put down a foot without snapping one or more of them in pieces.

Other parts of the forest are denser and more mixed. Many noble old larches are still untouched by the axe, but the stumps and prostrate stems leave sad record of the ruthless destruction done and still going on. Small spruce firs comprise the bulk of the growth, but in some places the larches are also quite abundant. Underneath in the swampy places, with the roots and parts of the

stems submerged in the overflow, are dense thickets of alder, and others skirt the outside of the forest. In the latter immense quantities of drift timber rested among the branches, floated on the waters of the flood, or lay upon the land piled up in masses or spread in regular layers as left by the subsiding of the floods of former years.

Behind Habarika, about half a verst distant, is an immense swamp, lying in the middle of forest, with pools of water dotted over its surface. It is quite three versts in length by one verst in width.

Here and there also in the forest are lakes, swamps, and curious hollows, the latter with regularly-formed banks, some dry, and covered with moss and dried-up water-plants (identified by Seebohm as *Potamógeton*), and some with a pool of water in the centre. These appeared to form a winding chain through the woods, joined here and there by swamp, and in other places by deep, water-worn trenches. These are doubtless formed by the previous higher floods of the great river, succeeded by the scorching rays of the hot sun of the short Arctic summer. Some have become dry and parched-up, and others retain a considerable amount of moisture. Round the lakes the forest stands like a wall, the stems of the trees bleached white with sun and water, and ice-scraped, to the height of five or six feet.

The new arrivals seen by us at Habarika were Smews, Goosanders, Black-throated Divers, Great Snipe, Cuckoo, Terék Sandpipers, Yellow-headed Wagtail, Golden Eagle, Hobby, Waxwings, and Osprey; and other birds seen were the Magpie, Wigeons, Teals, Pintails, Redwings, Fieldfares, Bluethroats, Siberian Chiffchaff, Siberian Tit, Capercaillie, Willow Warblers, Little Bunting, Blue-headed Wagtail, Bramblings, Redpolls, Ring-Dotterels, Stonechats, Hooded Crow, Siberian Jay, Three-toed

OSPREY'S NEST ON THE TOP OF A BROKEN LARCH.

Drawn from Memory and re-drawn by J. Pedder.

To face page 339.

Woodpecker, Wood Sandpiper, Greenshank, Goldeneye, Tree Sparrow, Pine Grosbeak, Barn Swallow, Reed Bunting, White Wagtail, *Larus cachinnans*, Bean Goose, Redstart, Ruffs, Temminck's Stint, Golden Plover, Common Gull, Bewick's Swan, Snipe, and Wheatear.

Golden Eagle.—Several Eagles were seen, and one identified as belonging to this species.

Osprey.—One bird of this species flew overhead, and when fired at dropped from its feet a large bunch of damp green moss, which it was doubtless bearing away to its nest. A nest presumed to be of this species was observed at a distance, on the top of a broken-topped larch on the far side of the swamp.

Hobby.—One fine ♂ was shot while perched on a horizontal branch of a larch on the edge of the swamp behind the village.

Three-toed Woodpecker.—We saw only three of this bird, although all the larches in the forest had their bark riddled by their bills in search for insects. Two of these were paired, and we did not succeed in getting a shot. The other was a female, and was brought promptly within range by Seebohm, who made an imitation of its rapping upon the stock of his gun. It came eagerly straight to us out of the forest and alighted near the top of a branchless pine, or larch-stump, 50 feet from the ground. We first heard its loud vibratory rapping on some hollow old larch—a single 'rap,' followed by a pause, and then a rapid succession and a final louder rap, thus 'Rap; r-r-ap, r-r-ap, r-r-ap; Rap!' We have observed on former occasions that Woodpeckers, when on the feed and quite undisturbed, at once commence ascending after alighting, and that they usually alight not very high above the ground; but if off the feed, and alarmed or attracted by the call or tapping of another, they rest and listen with the head erect or slightly thrown back, and

usually alight higher up the stem, and even perch on a horizontal branch or alight on the very summit.

Cuckoo.—The cuckoo was heard several times on each day, and on the first night we were there, about midnight.

Swallow.—We shot one which was frequenting the village.

Capercaillie.—The hen is called 'tye-tyóhrah,' and the male 'chookhah.' We did not see any, but found quantities of their droppings, through the wood and nooses set for the purpose of catching them when they come to dust themselves in the sand. It is simply a string noose fastened and hung over a place scraped in the sand and bushed over with branches.

Siberian Jay.—Common, and seen frequenting the edges of the wood which surrounds the opens and hollows in the forest, and feeding their young, one of which we obtained in the full plumage of the year. On several occasions we saw Siberian Jays cling to and climb up the stems of the trees exactly like a Woodpecker. Nor did they appear to choose rough-barked stems only, as we saw one distinctly climbing the smooth stem of a birch-tree. This Woodpecker-like habit, however, does not appear to be exercised for any length of time, *nor* in search of food, but only to get over the space intervening between two branches which it cannot hop. It soon returns to its more frequent habit—a series of upward springs from branch to branch spirally round the stem; often mounting thus nearly the whole length of the tree. The old birds are now moulting, and are not worth shooting. Young quills are appearing on the tail and wings, but there is no appearance of moult on the rest of the bird. Their loud, harsh cry on more than one occasion reminded me of the 'hack, hack, hack' of the Peregrine at its eyries in Scotland, and again of the scream of some one of the larger Woodpeckers. When

the young are helpless the parents are very silent, unless suddenly disturbed, and creep about in and out among the trees, making it a difficult matter to obtain specimens at that time—in spring. But whenever the young are able to feed themselves the parents become noisy, and perch conspicuously and fearlessly on the barer trees.

Tree Sparrow.—A flock of about a dozen of these birds frequented the village, and the bitterly cold wind we have had for the last two days seems to have retarded their nesting operations. We saw no attempts being made at nest-building.

Pine Grosbeak.—We only got three of these birds, and these three were all lying on the ground dead at the same time. We saw no others. One of these birds was shot just after it perched on the top of an old decayed upright pine-stump.

Brambling.—Very common—perhaps the commonest species here. One was shot by Seebohm on the naked trunk of a birch-tree in the act of hopping on the bark in a spiral direction some nine feet from the ground. It was taken at first sight for a Lesser Spotted Woodpecker.

Little Bunting.—Not very common, but some were seen each day. Perhaps their unobtrusive, indeed rather stealthy, habits as this season may shield them greatly from notice. They were fond of frequenting the mossy and marshy hollows in the forest, in company with Blue-headed Wagtails, Stints, and Fieldfares, feeding on insects.

Reed Bunting.—Not very common. Usually found on the skirts of the pine-woods, amongst willows and alders, and along the sides of the marshes, lakes, and overflows.

Yellow-headed Wagtail.—Five of this most unexpected species flew quickly past me in the thick forest, and settled within range on the alder-bushes in an overflow of

the river. I had just time to see that they had yellow heads, and sat in a bunched-up position, which made them look very large. As I rapidly threw up my gun and fired, I imagined at the moment that they were Hawfinches, and it was only on picking up one I killed, that I discovered what it was. They arrived quite silently, and, still more remarkable, uttered no sound either as they sat on the alder-bushes, or as they flew off after my shot was fired. The one I secured has a bright yellow head with very black half-collar on the back of the neck, and by dissection is a male. My impression is that all the others also had yellow heads, but I had not time to scan them carefully.

Fieldfares.—These are beginning to lay, and we had two nests brought in with just one egg each. We heard the low song uttered by the bird on the wing, and which is, I believe, supposed only to be uttered previous to the breeding season [see Norwegian *Journal* for 1871].

Redwing.—Very common, and we got several nests all with four eggs, save one which had five. This would make it appear that the Redwing is an earlier breeder than the Fieldfare, though both arrived at Ust Zylma at the same time. We found one nest in a spruce nine feet from the ground. The eggs appear to be those of the Redwing, but as we did not see the bird, they cannot be considered as authenticated. In a considerable series of the eggs of the two species from Norway, I have eggs of both species, well identified, which I think it would be almost impossible to distinguish the one from the other.

Bluethroat.—This is a very abundant species; indeed, almost, if not quite, as plentiful as the Brambling. It is found everywhere through the forests alike plentiful in the thickets of alder and willow, in the large forest, and in the opens covered with scrub, wherever there is marshy

ground; but is apparently totally absent from the dry, sandy, open pine-covered ground. It is vain to attempt to describe all its varied collection of songs. It is indeed a true mocking-bird. We have even heard it (seen it in the act) singing the rich melodious song of the Redwing, and the 'twirring' of the first notes of the Wood Sandpiper. It is fond of feeding on insects along the margins of the pools in the marshy hollows of the forest.

Redstart.—Only one was seen—a male—in the dry open pine-ground.

Wheatear.—Not common. We found two or three pairs on the open ground near the village, amongst old tree-roots and stumps, where the forest has formerly been cleared off.

Stonechat.—Not rare, but confined to the dry, sandy, opener woods near the village.

Willow Warbler.—Common. We noticed an additional note of this bird, which we did not remember ever having heard before. Seebohm compares it to the spitting of a cat. Perhaps it is best expressed by a succession of z's, thus—'z-z-z-z-z,' or 'zh-zh-zh,' but it is difficult to explain on paper.

Siberian Chiffchaff.—A few were seen and heard but only one was shot. We should say that they are just as rare here as in the smaller pine-forests at Ust Zylma. As usual, they are also shy, active, and restless here, and most difficult to get a shot at. The males, perched on the tip-top of the highest larches, uttering their loud 'chivet-chivet-chivet,' or their rapid song, were wild, and seldom allowed a nearer approach than a hundred yards, ever flying on ahead from high larch top to high larch top. A bird which perches so conspicuously and has a loud note, cannot be otherwise than very rare, or we should see them oftener, as we are constantly scrutinising the tops

of the pines, spruces, larch, and the high naked stems for other birds. The females do not appear to perch high, but creep stealthily about among the undergrowth and lower spruces.

Siberian Tit.—We got two pairs of this species, and two single birds, and saw just one other pair.

Waxwing.—Only two were seen, and these were shot; and one had to be sought for for three-quarters of an hour at least before it was found. They turned out ♂ and ♀ by dissection. The eggs in the ovary of the female were large, and nesting operations must surely now be going on. The testicles of the male were also largely developed.

On neither ♂ nor ♀ was there any sign of the I markings returning, *i.e.*, beginning to form the J markings. Therefore, in young birds, as these are, these marks are not of much assistance in determining the sex. The low 'cissèe' notes of these birds were at first taken for those of some Tit. The differences noted between the ♂ and ♀ are as follows:—

The ♂ has the black on the throat distinctly defined, and deep in colour.

The ♂ has the upper-tail-coverts distinctly darker chestnut than the ♀, which at Archangel, Alston and I also found to be a good test, and we never once found it fail. The difference of shade is as nearly as possible that between a horse-chestnut exposed for a few hours to the light, and one exposed as many days.

The ♂ has the yellow on the primaries more brilliant, and the white larger, both on the primaries, secondaries, and wing-coverts.

The crest of the ♂ is larger, and the ♂ is a larger bird with longer wings.

The wax appendages are larger, and there are more of them in the ♂.

Golden Plover.—We saw just one pair on the ploughed land behind the village.

Ringed Plover.—A few were on the ploughed fields with the last species, a few more on the river edge, and one or two on the margin of one of the pools in the forest hollows.

Great Snipe.—One of a pair was shot at night on the mixed forest behind the village on comparatively dry ground.

Common Snipe.—We have not secured a specimen of the Common Snipe, but have heard the drumming and 'tick tjuck, tick tjuck' several times. The first time we heard it Seebohm said, 'What is that?' and I at once said, 'That's a Common Snipe.' I mention this now as every single recognition of it, as will be seen later, is of value. Afterwards, on two separate evenings, we both heard a Snipe drumming, and also again uttering its 'tick tjuck.' On the last occasion, while Seebohm was in pursuit of a Woodpecker, I followed up the sound of the 'tick tjuck,' and saw a wader perched on the tip-top of one of these gaunt branchless blasted larches, and when I got him nicely in range of my binocular, could not believe my eyes or ears, when I saw the long bill and heard him distinctly uttering his almost unique note. I went nearer, looked again; not a doubt remained. As I still stared through my glass he saw me, and dived down almost perpendicularly, and I saw him alight in the marsh about twenty paces from the foot of the stump. Again I doubted if my identification was correct, as the same day we had shot a Wood Sandpiper, which had behaved in an exactly similar manner. I walked up, gun on cock. He rose within range and *twisted* away rapidly. I had not got over my astonishment and did not even lift my gun to shoot. He was a Snipe, no white whatever showing, and in every way behaved like our Common Snipe at home

even to the 'tzig' as he rose. Afterwards I searched every bare stump in the place in hopes of seeing another. He was perched when I saw him first quite 70 feet from the ground, was standing in a stooping position, head and bill pointing down, and lower than the back and tail.

Every additional fact in relation to the perching habits of birds in this country, which do not perch, or perch but seldom, in other countries, is of interest. It is, we think, undoubtedly forced upon the birds by the great flooding of the country, and what was originally forced upon them has become a favourite habit. To those already observed perching on trees and lofty situations on this trip, I can add the Curlew, which Alston and I saw at Suzma, perching on trees and bushes in 1872. With regard to this Snipe, due distinction must be drawn between a branchless bare pole 70 feet in height, and a green tree in full vigour. The Gulls seen perching on a living birch are, perhaps, even more striking examples.

Temminck's Stint.—One little party of these birds frequented a pool in a hollow in the forest, and we bagged four, which amounted to all, or nearly all, the flock.

Greenshank.—Several pairs were seen and heard uttering their 'twoo twoo.' As usual, they were wary birds, and we did not secure a single specimen.

Some Totani, with dark or black breasts, and distinctly barred rumps, were seen and fired at, which there is little doubt were *Dusky Redshanks*. They were not yet paired, as we saw one party of five, and any others we saw were single birds.

Wood Sandpiper.—Very common, frequenting the edges of the large marsh on the border of the forest, and the marshy hollows. We shot one which had perched 70 feet from the ground on a larch-tree, bare of bark and

branchless. It was quite silent while so perched. It flew down and alighted in the marsh exactly as I have described the Snipe doing.

Terék Sandpiper.—Frequented the hollows and pools in the forest, and was especially fond of running over the driftwood on the submerged skirts of the forest.

Ruff.—A few of these birds were seen in the large swamp, a party of six and two males black and white.

Bean Goose.—A skin was shown to us by Captain Engel which was shot at Habarika.

Bewick's Swan.—Saw skin of one shot at Habarika and got the bill.

Wigeon.—Took two nests of eggs, five and five, shooting the female off one and getting a little down in the other. Not many were seen on the marshes or pools.

Pintail.—The commonest Duck. We got one nest of nine eggs and down, shooting the ♀ off the nest. This and one of the Wigeon's nests were under the fallen bleached pines in the pine tract, which would appear to be a favourite locality.

Teal.—Seen, and nest and eight eggs brought in, and a ♂ bird.

Goldeneye.—Common. Down and fourteen eggs brought by peasant, who showed us the nest-hole, at least 25 feet from the ground.

A large flock of large dark Ducks, with others amongst them with light-coloured heads, was seen passing north, after circling round over the river at a great height. These looked like *Eiders*.

We received the head and bill of a *Velvet Scoter*, but cannot say where it was killed.

Goosander.—A pair were distinctly identified.

Smew.—Very common. A ♂ was sold to us; and the three feet high-stumps of the cut larches round the large swamp and elsewhere, often hollow to the bottom, are admirably suited to their nesting habits.

Black-throated Diver.—Frequently seen and heard, and I fired ineffectually at one passing overhead.

*Larus cachinnans.**

Common Gull.—Both seen on one or two occasions.

We did not see any of the following, which we naturally expected to find:—Raven, Bullfinch, Yellowhammer, and no Pipits or Larks.

In these three days at Habarika we saw the above forty-nine species, eleven of which are new to our list; whereas at Ust Zylma, between the 15th of April and the 2nd of June, we only identified altogether seventy-one species.

I forgot to mention that we saw two Swans besides the identified skin. Doubtless they were also Bewick's; but if so, they are late of departing northward.

The following birds also were seen at Habarika:—Redpoll, Hooded Crow, Magpie, Blue-headed Wagtail, White Wagtail. There is little to say about them besides what has been already noted. They were all common.

We returned to Ust Zylma on Saturday night, the 5th of June, reaching it on Sunday morning.

June 6.

On Sunday, the 6th of June, the engineer's son was married, and we had to be present at the festivities (save the word!). The marriage took place in the Church of the Old Believers; but as the bridegroom belonged to the Orthodox Church, the ceremony and service were so conducted, though performed by the Old Believers' priest.

At Arendt's house afterwards the invited guests assembled, and wine and champagne and coffee circulated freely, while outside on the grass the whole village people appeared to assemble.

* See Appendix—*Larus affinis*, Reinh.

There is little to describe, unless it be the curious habit or custom of the female part of the population, on the occasion of a wedding, to enter into the house by instalments, each carrying a clean coloured cotton or silk handkerchief, held to the mouth while still in the folds, and having a long stare at the newly-married couple. No refreshment is offered them in the house, and all that we could learn was that 'Oh! it is the fashion here.' We thought at first that it was on account of the tobacco, but we saw them afterwards when dancing outside still 'following the fashion.' The dancing was the most solemn proceeding we ever witnessed. The beau held the belle's arm and elbow and both walked in a circle, one of the beau's feet being a pivot. It was like a funeral march round a teacup.

June 7.

On Monday, the 7th of June, we worked hard at blowing eggs, writing up journals, etc., while Piottuch skinned.

The new arrival to-day was the Scarlet Finch (*Carpodacus erythrinus*).

We took a short turn up the Siberian Chiffchaff valley, but saw or heard none. We saw two Scarlet Finches and Seebohm shot one. They were both males, and had a very pretty note of four syllables, something like 'toowít-tu-tui,' with the second syllable higher than the others. The other note, which I remember well, and which I heard the female utter at Archangel in 1872, was a low, Greenfinch-like single 'zh-zh-zh-zh.' The birds were both calling, and perched, one on the summit of a spruce, and the other low down in a small larch.

In the evening a nest of four eggs of the Wood Sandpiper was brought to us.

To-day we again heard the Cuckoo.

June 8.

On Tuesday, the 8th of June, we finished blowing and cataloguing our eggs, 120 in number.

Four eggs of the Oystercatcher were brought in, three from one nest and one from a second, from the other side of the river. Taken three hundred miles from the sea, a nest of Oystercatchers' eggs has considerable interest attaching to it.

The new arrival to-day was the Little Ringed Plover. We took a turn out late in the evening without expecting to get any birds, but in the marsh and tundra patch at the north end of the town a bird rose, and I at once cried out, 'That's a Little Ringed Plover.' It settled again close to us and Seebohm shot it.

We also added to the Ust Zylma list two Terék Sandpipers, and we also shot two Stints.

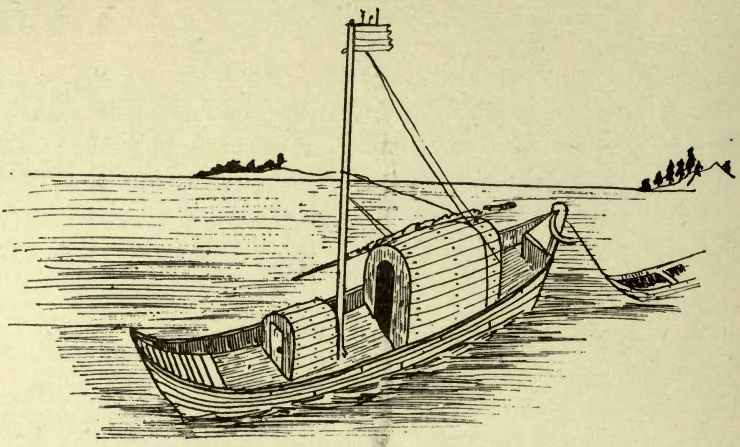
June 9.

On Wednesday, the 9th of June, we packed assiduously. A Kouropatki (Willow Grouse) was our new arrival for to-day. It was brought to us, the first we have seen here. It is in semi-white plumage—*i.e.*, head and neck in summer plumage, body changing from the winter plumage. Some years Winter Grouse are exceedingly abundant here, and others very scarce indeed.

One of our engaged men has been unwell, or pretending to be so, in order to get more money. He is a Samoyède, and according to all accounts an adept at finding nests. We have yielded, and promised to give give him two roubles more than before, and afterwards if he gets plenty of eggs three, four, or five roubles more. His original engagement was for fifteen roubles per month.

We dined with M. Znaminsky, and he presented a very fine white *Savik* to Seebohm, and Seebohm in return

presented him with one of the tents, as we are not likely to require both. We afterwards made a round of calls—desperately heavy work. I should be afraid of putting on paper the variety of bad liquor we had to taste at each house, besides tea or coffee.



PART III

VOYAGE DOWN THE PETCHORA, AND LIFE AT ALEXIÈVKA

June 10.

On Thursday morning, the 10th of June, we bade final adieu to M. Znaminsky, who came and saw us off in our big boat.

Our baggage looked dreadfully formidable as it lay on the beach beside the boat, but all was stowed away at last, and a fairly comfortable temporary arrangement effected.

The wind, which had been high during the night, fell considerably, and the day was very warm.

We bade adieu to Ust Zylma with no regret, as we longed for the delta and the tundra. We landed at one or two places on the way to Habarika, but saw or got little ; a couple of Little Buntings, ♂ and ♀ at one shot, a fine Redpoll, and a few common things. At Habarika

the people had collected eggs for us, Ducks and down, Redwings, Reed Buntings, Redpolls, Redstarts, and—best of all—eight Smews' eggs and down.*

Coming down the river we saw the first Sand Martin. We stayed up all night blowing eggs on the roof of our house, and saw the sun rise, tinging the houses and the low willow thickets, and the funnels of the steamboat, and a tall larch-tree with wondrous lustre.

Arendt and the Captain go off down the river to-morrow and next day, and will accomplish the journey in about twenty-four hours.

June 11.

The morning of Friday, the 11th of June, was dull and cloudy and warm, with no wind.

We went over our old ground. We shot a Siberian Chiffchaff and a few common birds. Since our last visit the water in the overflow has considerably subsided, leaving in the open places a rim of grass which has since grown up beautifully green.

Redstarts are more abundant now, and are singularly wild and shy, singing freely, and, like most singing birds here, perching high.

To-day both Seebohm and I again saw the Snipe, perched on a tall larch-stump just as before, and a second time on the topmost dead twig of a living larch. Here I shot him, putting the matter beyond the shadow of a doubt. It is somewhat difficult to understand how the bird maintained its foothold of a perpendicular twig not more than, at the very outside, half an inch in thickness, and we believe it was much less. Seebohm afterwards saw a Snipe a third time, perched on a living larch in just the same position. Several were seen in the air at the

* These eggs were pronounced genuine by Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm, on the examination of our collections at Sheffield, in September, 1875, after our return.

same time drumming, and the first one we saw was as before observed, uttering his 'tjick-tjuck, tjick-tjuck, tjick-tjuck.' We find the centre tail feathers of this Snipe somewhat abraded at the sides near the tip, leaving part of the quill bare and a tuft at the end, untouched.*

The following is a description of Ducks' down which we have identified along with the eggs :—

Smews.—Light yellow yolk. Nest in an old stump, and down much mixed with chips of rotten wood. Eight eggs. Down light-coloured. Two parcels were brought, the nest having been divided by the two boys who found them. Four eggs and the bottom down of the nest containing many chips of wood, and the four others with the rest of the down, much freer from chips of wood, but still having abundance of them.

Pintail.—Down adhesive. Yolk much darker than Smews'. Nine eggs.

Another nest with the down which we did not make out (and which was still not identified in 1900). The nest was on the ground. Down brown and adhesive. Yolk usual colour. Six eggs, smaller than Pintails', with a slight brownish tinge, as in Red-breasted Mergansers.

We left Harbarika in the evening and floated away down the stream gently and silently. We stopped at a fishing encampment, where we shot a Cuckoo, a Hen Harrier, and a Short-eared Owl. We saw the seine net drawn—exactly similar to our seine and 'scringe' nets on the West Coast of Scotland—but it was a blank. We stopped here half an hour or so, and then floated away again lazily with the stream, which is at present running at the rate of about four miles an hour.

The new bird seen to-day was the Rough-legged Buzzard.

We landed occasionally at likely-looking places, but got

* Approaching in this respect the Indian species ?

little. From the boat Piottuch shot a very fine Rough-legged Buzzard, very light-coloured, with, as usual, the very marked dark broad band across the belly. Isaac, the dog, was running on shore, and the bird's attention was so taken up with him that he allowed our boat to approach to within twenty yards of where he had just alighted on the top of some willow-bushes.

At another place we stopped for a time and searched a willow-covered island separated from the higher fast land by a rapidly-running side-branch of the river. Looking up-stream from where our boat lay, we appeared to be entirely shut in by a string of islands, and we could see a long narrow lane of water—the offshoot of the river with the steep bank of the fast land on the right hand, and the low islands on the left, covered with willows down to the water edge. Here we saw numbers of Common Scoters in pairs and in flocks, and Wigeon, and an Owl flew over the boat, but the island was apparently destitute of bird life, except a few Terék Sandpipers which we saw as we floated down to the place where we lay-to.

After floating down a few versts further the boat was drawn up alongshore for the night, and we went to sleep.

June 12.

On Saturday, the 12th of June, the new birds seen were the Common Sandpiper, Sedge Warbler, Red-throated Diver, Greyhen (Black Grouse), and Scaup.

Waking at 6 a.m. we went out shooting. We saw Common Sandpiper, and Seebohm shot a Sedge Warbler.

Rain came on and everything had to be bundled in higgledy-piggledy. Our confined cabin is as yet a scene of great confusion, and with such a quantity of luggage everything is—as Piottuch says—*très mal chose;* nor do we, as yet, in the least see how we are to arrange for the better.

The following eggs were brought to us at Habarika, besides Ducks and down, viz.:—One Greenshanks (the other three were broken, the man having stupidly put them in his waistcoat pocket).

Landing here and there, we found several Ducks' nests, mostly Wigeons, and one nest of Scoters (down light brown, and eggs larger than any of our Wigeons)—six in number.

Occasionally as we rowed slowly with the current, within gunshot of the shore, we got a shot at a Common Sandpiper, or a Duck, and I shot a fine Red-throated Diver.

At Habarika Seebohm found a nest of four Ruffs' eggs, shooting the female, and found a Wood Sandpiper's nest ready for eggs.

In the afternoon we had a thunderstorm, and to add to our troubles the roof leaked in three places. Our bowls were all filled with egg-flip ready for making omelettes; we had to sacrifice some and put the bowl to catch the drip.

A Warbler shot by Seebohm cried 'twósuk,' the alarm-note. We are a little puzzled by these Warblers (*Phylloscopi*) which we have shot, and we are now shooting and preserving all we can.

The Mosquitoes are putting in an appearance. They are very large, and the 'bizz-z-z' is as loud as that of a bee, but higher toned.

We landed at a place where the mast of our boat had disturbed a number of wild Swans on a pond behind a fringing belt of willows. We tried to get shot at a Swan on another pond, but failed. I crept along one side amongst willows and old alder, and Piottuch along the opposite side. Looking through the interstices between the tree trunks and willow branches, I saw a fine lot of Ducks swimming peacefully about on the pond formed by the overflowing of the river. Before they were disturbed

the place reminded me of a pond in a gentleman's private grounds at home, and the same birds were swimming here that one often sees in the former places. Two Wigeons were in the foreground, the male occasionally whistling as he floated lazily about. A little further off were two Teal, and up and down over the pond were a number of splendid Scaup ducks, swimming in pairs or in small parties and frequently uttering their harsh wild cries. At the far end a solitary Swan floated, neck straight, head high, and evidently on the *qui vive*. The Scaups first became suspicious and swam close up to one another. The Swan took the hint, and beating the water with his wings, rose, and flew off shortly afterwards, followed by the Scaup, Wigeon, and Teal, and the pond was totally deserted.

Piottuch fired at a Greyhen, and we found the nest on the raised grass-covered bank skirting the river, containing five eggs.

The Swans were, we believe, still only migrating, as there were no less than nine together when they first rose startled by the flag at our masthead.

At six o'clock we came to anchor in a kouria surrounded on three sides by steep wooded banks, and opening on to the river on the fourth.

Rain came on, and we made all as tight as we could for the night.

As yet we have only made 45 versts from Habarika. Piottuch is hard at work, but finds it difficult to do his work well in the confined space at his command. We are fully employed in blowing eggs, writing journals, etc., and are now tolerably comfortable in our cabin, as the leaks are not very large. The waterproof sheets are spread over the space between the two cabins, where there is a locker full of unskinned birds, and where Piottuch works in fine weather, and where we eat our rough-and-

ready meals. We have a bowl full of cold omelette of Ducks' eggs—very good—cold roast beef, and a small stock of white bread, a barrel full of salt beef, a keg of Russian butter (maslo), a box and bag full of rusks—slices of white bread baked crisp through and through like our 'pulled bread' at home—tea, 'punsch'—extract—small cask of brandy, and as yet we have been able to buy milk, but that may fail us as we get lower down the river.

June 13.

On Sunday, the 13th of June, the new bird seen was the Goshawk.

Heavy rain continued all night and all to-day. We waited for some hours in the hope of its clearing, but at last had to give up hopes of its doing so, and again moved on down-stream with a blustering cold wind right ahead.

In the morning, Seebohm, well smothered in 'Sou-wester,' Cording's patent ventilating macintosh, and long boots, had braved the elements, but the only results were an old Waxwing's nest and a handful of last year's cranberries. I having caught rather a nasty cold remained in our cabin, blowing and marking eggs, etc.

About 5 p.m. we entered the mouth of the Yorsa River —just 50 versts from Habarika, 90 from Ust Zylma—and lay-to some versts further up, where there is a little log-hut occupied in autumn by hay-cutters.

The rain not falling quite so heavily, we both went out for an hour or two to see what the locality would produce. Seebohm came in with a splendid Goshawk, shot in the act of devouring a female Wigeon in the midst of a dense alder thicket. The head and bill of the said Wigeon were nowhere to be found. Could it have been cut clean off when the prey was struck?

He had also shot a Short-eared Owl and some common birds and pursued a Sedge Warbler, another of which I

heard 'churring' in an alder thicket. I shot a fine male Wigeon, and was then ferried over to the other bank of the river [Petchora or Yorsa?], where there are certain hay-meadows with labyrinths of alder swamps and kourias winding about in the hollows. The hay-meadows are raised ridges and open spaces covered with green grass, a foot or so deep, with the *Emberiza aureola* plant (*Veratrum album*), which Alston and I found so plentiful near Archangel in 1872, beginning to spring up. Here I shot a Great Snipe out of a party of five, and immediately afterwards a fine Yellow-headed Wagtail ♂, which was perched on a bare rotten alder in the same 'croodled-up' position which was observed before at Habarika, the fluffy appearance of the feathers making it look twice its natural size. The female rose at the same time from an alder thicket close at hand, and flew right away.

Returning to the same spot later, I fired at the female and wounded it, and it dropped across a deep kouria in a thick flooded alder thicket. I afterwards directed Seebohm to the spot, and he got one of our men to scull the little boat through the bushes, but he could see nothing of the bird.

The meadows here are in general appearance much like those at Archangel, and just the kind of places one would expect to find the Yellow-breasted Bunting abundant in. As yet, however, we have never caught sight of that lovely species. The Little Bunting was very abundant, and I saw one carrying material for its nest.

Reed Buntings were not rare, and Seebohm when looking for the ♀ Wagtail found a nest of this species built in an old Fieldfare's nest, nine feet up in an *alder*-bush above the level of the water. Redpolls were common, and I found a nest containing young of the large light-coloured bird, which was distinctly recognisable as it flew low away off its nest. Expecting to take eggs,

and wishing to thoroughly identify them, I had unfortunately shot the bird.

A few Gulls (*Larus cachinnans*) and Common Gull were flying about, but we did not get good chances of procuring specimens. A small Owl (probably Tengmalm's) perched on the top of one of the poles upon which the hay is stacked in autumn, but did not allow an approach within range. Pintails were seen, and Wigeon were abundant, and one Wood Sandpiper was seen. The latter bird appears to be getting scarcer as we go north.

June 14.

On Monday, the 14th of June, we stayed till about two o'clock, and then proceeded. The day was very warm indeed after the rain.

The new bird seen to-day was the Arctic Tern.

In the forenoon I shot a Hare, and Seebohm found a Wigeon's nest.

As we slowly floated down the stream we saw few birds. Three Swans glided for a long distance in front of us, and an occasional Wigeon or Common Scoter flew past.

We passed through a labyrinth of islands, mostly covered with alder and willow, with occasional clumps of tall birch. The larch and pine tops on the fast land on the right bank of the river were visible over the small alders, but the trees on the fast land, or true left bank of the river, were not visible.

About 6.30 p.m. we stopped at a place called Chuvinski Ostrov for dinner (fish, cold meat, rusks, and capital milk). While the fish was being prepared Seebohm and I took a little stroll inland, and had the good luck to shoot two Three-toed Woodpeckers and find the nest with three young and one egg in a birch-tree. Feodor, the half-breed (Samoyède × Russian) felled the tree for us.

Also we got ♂ and ♀ Yellow-headed Wagtails. The ♀ was carrying dry grass in her bill to build her nest.

Description of ♀.—Top of head greenish, with a yellow streak over the eye, joined to the yellow of the neck by a *pale* yellow band, encircling the auricular feathers, which are darker and greener. A pale yellow or yellowish-buff frontal band. Much paler on the belly than the ♂.

We found a Pintail's nest and eggs.

Later in the evening at one place we got a Scoter's nest with ten eggs and down, and a Brambling's with seven eggs, and shot two Little Buntings and another of those puzzling Willow-Warbler-like *Phylloscopi*.

Two Terns were seen at a distance and whistled over the boat, and were identified as Arctic Terns by the ash-grey of the breast. Several were afterwards shot at their nests, which latter contained one or two eggs. They were breeding apart, and not in a colony, and the nest was not yet begun, the eggs being laid on the bare sand.

An Oystercatcher was shot, and another pair were nesting on the same piece of ground with the Terns. We were a little surprised at finding these birds breeding so far inland, only 120 versts down the river from Ust Zylma, *i.e.*, 160 versts from Kuja. The tide comes up as far as Konig and Pustozersk.

After this, during the evening, which was very fine, we rowed gently down-stream. We have only as yet used our sail once, having for the most part had either dead calm or light contrary wind.

June 15.

When we awoke on the morning of Tuesday, the 15th of June, we found the rain again heavy.

Our boat was lying-to at a village called Abrámoff. Here we shot three more Yellow-headed Wagtails (two ♂ and one ♀). The ♀ had evidently been sitting, as the belly

showed a large hatching-spot. A White Wagtail's nest with five eggs was found in a hollow stump about a foot above the ground, which latter had lately been flooded. Ringed Plover and Temminck's Stint were shot.

We seem now to have left the large wood behind, and to be sailing amongst low islands covered with alder and willow. All day we seldom or never were within sight of the fast land on either side.

The bird life in these thickets seems principally to consist of Redpolls, Sedge Warblers (not very common), Blue-headed Wagtails (scarce), Yellow-headed Wagtails (a pair or two frequenting each open patch of ground near the villages or single houses), Terék Sandpipers, Wigeon, a few black Scoters, Pintails, White Wagtails (usually near houses), Fieldfares, Redwings, Willow (?)-Warblers, Lesser Spotted and Three-toed Woodpeckers, a few Bramblings, Common and Herring Gulls, Arctic Terns, Oystercatchers, Common Sandpipers (nowhere abundant), Swallows (two seen at Abrámoff), Wood Sandpipers (scarce), Little Buntings, Ringed Plover, Temminck's Stints, Reed Buntings, Ravens (two young seen at Abrámoff), Hooded Crows, a Magpie, a fine Sea or White-tailed Eagle, Short-eared Owls, Tree Sparrows (shot at Chuvinski), Scaup Ducks (not seen plentifully except at the one place before mentioned), and Swans.

The Sedge Warblers were seen to rise in the air and hover like Bluethroats, singing at the same time.

At Abrámoff eggs of the Common Gull and White Wagtails were brought to us.

Our next stopping-place was at Stuchia for tea. Here again we found the Yellow-headed Wagtail, and shot two females and a male. The female was again sitting in the same position we have already described, and which we have not observed in the Blue-headed species. They

were frequenting willow and alder thickets near the village.

At Stuchia, Seebohm took the first Terék Sandpiper's nest with four eggs, and I a Redpoll's, which was lined with Duck's (apparently Pintail's) down, with one egg, and two Fieldfares' with five and three.

I shot another of those doubtful Warblers, which we afterwards had identified as the Siberian Chiffchaffs. There is a very distinct buff colour on its breast. They do not agree with the description of *Phylloscopus borealis* we noted down at St. Petersbourg, nor with specimens sent to Seebohm by Dresser, but they remind me of the birds Alston and I shot at Archangel (at Valdúshki) in 1872, and which were then identified by Dresser as *P. borealis*. They appear to be intermediate in size, between the Willow Warbler and *S. middendorffii*. This bird was silent, and flew from tree to tree towards me, looking curiously on all sides as it rested on each branch. The buff on the breast was distinctly visible at a considerable distance.

Later in the evening we took an Oystercatcher's nest with four eggs, and a Tern's with two, shot two Temminck's Stints, and saw two Scaups.

We had a slight tossing in our boat this evening; the wind was still northerly, and, of course, against us. The loose bottles and sundries on our shelf, however, behaved well.

Our boat lay-to for the night to let the rowers have some sleep, and we made good use of the opportunity, shooting all the morning of—

June 16.

Wednesday, the 16th of June, and making a good bag of the Siberian Chiffchaffs, Sedge Warblers, Little Buntings, and getting also one Yellow-headed Wagtail ♂,

and two Petchora Pipits, which we did not at the time know [see 'Ibis'], and which are quite different from any we have got before. They looked as if they might be *Anthus aquaticus*, but we could not say at the time.* *One* fell to Seebohm's gun, the ♀, when on the ground, and *the other to mine*, just after descending from singing in the air. They were frequenting marshy ground in the willow-covered, rather open parts, and were shy and difficult to see except when singing. There appeared only to be the single pair. *Before I joined Seebohm, and before he shot the* ♀, he had been watching the ♂ singing in the air for half an hour, which it did without intermission, quite unlike the Tree Pipit, and, indeed, more like a lark. The song was peculiar, the first notes like those of the Temminck's Stint, and the last a deep-drawn, low, and almost guttural 'zu-z-z,' or, perhaps, rather as if the bird were drawing in its breath at the time of utterance. The feet are pale flesh-colour. Seebohm likened the first part of its song to the second part of that of the Wood Warbler.†

I shot two of the Little Warblers, ♂ and ♀, the ♂ just after singing. The song could not be distinguished from that of the Willow Warbler. That species was also

* On the examination of our specimens at Sheffield after our return by Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm, this aquatic Pipit was pronounced to be a new species, and was thereupon described as *Anthus seebohmi*. It afterwards proved to be the Petchora Pipit (*A. gustavi*).

† In Seebohm's account both these birds are described as ♂s, but there must have been some error here, because these were the only two seen, and they were shot at the same spot. In our list of specimens, I find they are also both entered as ♂s. It was probably an hour after Seebohm first began to watch the male singing, that I came up, but I shot the male a few minutes after he had shot *the other bird* on the ground. Possibly they may have been two ♂s in rivalry for the same ♀. No doubt they had been correctly sexed. (J.H.B.)

obtained. It is a great deal larger. Is it possible this could have been *Sylvia coronata* of Meves?*

The note of the ♂ Yellow-headed Wagtail closely resembles that of the Blue-headed species.

The Sedge Warblers seem to have a much fuller and richer and more varied song here than ours have.

One Great Snipe was fired at. It may be added to yesterday's list of the birds found in the low willow- and alder-covered islands, and so also may the Common Snipe, which was heard drumming, and was also seen.

We arrived at Viska, or Veeska, where there is a merchant. Veeska is the last place where we can buy necessaries or luxuries, so we laid in a store of white flour, some pounds of tobacco to mix with our Virginia, some pounds of figs, and sundries. The people of Veeska are said to be wealthy, and there is one peasant, owner of 10,000 Reindeer, which are worth about seven roubles (or £1 sterling) each. How very well a little of this wealth might be expended in keeping the village sweet and clean. If Ust Zylma was worthy of the name of *one large* dry dung-hill, Veeska is a collection of a hundred, with stagnant green pools between. Approaching it in a boat, Seebohm said it looked like a small Venice. All the surrounding land and islands is almost a dead level, and the town seen from the water, with its irregularly-disposed houses and handsome church, cuts clear against the sky. A large green meadow lies below the town (which stands a few feet higher upon the dung-heap), skirted beyond by the usual alder and willow thickets.

* On the examination of our skins at Sheffield after our return by Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm, the notes sent by the last-named to me (dated the 20th of September, 1875), were as follows:

'*S. tussock* is not yet identified: it is not *S. trochilus*.'

'Large and Small Willow Wrens: there may be one or two species; we cannot yet tell.'

The town is almost encircled by the river and its kourias.

The wind being still dead against us we were compelled again to lie-to for the night a little below Veeska. This is weary work. What must it be tracking up-stream against the current?

June 17.

On Thursday, the 17th of June, we had a good morning's work done by ten o'clock. We got some more of the Small Warblers, Yellow-headed Wagtails, a Common Skylark (only the second we have seen, the other one having been shot at Ust Zylma), a Bluethroat (which is becoming rarer as we go north), two Lesser Spotted Woodpeckers, and a few Temminck's Stints.

I watched one of the latter to its nest and shot it. [No. 492 ♂]. The nest was a small, cup-shaped hollow, lined with dry grass and leaves, and placed quite in the midst of willow scrub. It contained four eggs.

Quite in the middle of the island we rose many Stints, and doubtless some of them had also nests. Having hitherto only found them breeding in the open we did not search with sufficient diligence for the nests.

Seebohm shot a Redpoll with the feathers round the base of the bill dyed saffron-yellow from the pollen of the willow catkins. We think this must be Richter's 'Evolga' at last (?).

A large 'gaggle' of Bean Geese passed the island. There were at least fifty in it.

A Pipit—the Petchora Pipit—the same as those obtained yesterday, was seen and watched while singing by Seebohm.

On the island close to where we landed there was a huge ridge of ice-blocks, three times the height of a man, forced up by the flood. There must have been a grand 'scrunch' here.

At our next halting-place we added two species to our list :—

Red-necked Phalarope.

Tufted Duck.

Seebohm shot five of the former and one of the latter. The Phalaropes were frequenting a little pool with grass round the edges, and rose when he shot the Tufted Duck and settled on the water round the latter, when he shot the five, one after the other.

I crossed in the boat to the adjoining island, where there was a great deal of open marshy ground. Here I shot a Temminck's Stint perched upon the top of a low twig of scrub-willow. It tumbled over and remained suspended by one foot, the latter having got entangled in a bunch of last year's leaves.

I soon after came upon the parade-ground (lek) of a party of Ruffs and Reeves. I watched the males for some time pirouetting on the summit of a piece of peat; or running round it, in a stooping position with the ruffs puffed out to the fullest extent. When at last they became alarmed all collected together on the top, and I fired, but the distance was over fifty yards, and I did not secure one. I afterwards shot two males, walking them up out of the long grass and dwarf willow. The top of the block of peat, which was about a yard square, was trampled down with their feet, and must have been frequented by them for some time.

At another place we landed in pursuit of a large flight of Great Snipe, and in a very short time secured ten birds, and Seebohm also found another party of Red-necked Phalaropes and shot four more. The Snipe were in great numbers and were flying about continually and alighting around us. We saw them frequently on the ground, and heard the curious sound made by them whilst feeding, which may be imitated by a rapid low

tapping of two pieces of wood together, or by rapidly striking the tongue against the palate. A Common Snipe or two were seen, and heard drumming overhead at the same place.

To-day I shot a Red-throated Pipit perched high up on a willow. This is the second time we have seen the Red-throated Pipit perch (see p. 330). This goes far to prove the other perching Pipits to be the young of this species.

I identified and fired at a female Shoveller to-day as she passed close overhead.

Piottuch has just skinned the Temminck's Stint I shot, and by dissection, which I verified, it is a male.

In the evening we brought-to the boat, within a verst of Pustozersk, inside the entrance to the circular sandy bay at the head of which stands the town.

We did not go to the town, but landed and searched a range of sand-hills and hollows for eggs.

June 18.

We remained out all night until 4 a.m. in the morning of Friday, the 18th of June.

We found a nest of Terék Sandpipers with four eggs. As is often the case with the nests of this species, it was placed between two small pieces of drift-wood, doubtless as a protection from the drifting sand which surrounded it. We shot the bird, which feigned lameness to draw our attention from the nest.

We found a place frequented by a small colony of Sand Martins, five or six pairs, with freshly-made and unfinished nest-holes, in a low, crumbly sand-bank. We shot a bird, and we remarked the extremely *dark* colour as compared with ours at home, which same very marked difference Alston and I observed at Archangel in 1872.

Temminck's Stints were plentiful, not yet breeding.

Many *false* nests were found, but no eggs, and the birds did not appear to be engaged in nesting.

Seebohm and I after 'tchai' went on different tacks for a bit, and then met again. I had shot two Blue-throats and Seebohm a Willow Grouse.

We had by this time left the sand-hills and gone on to a great moor covered with low thicket of dwarf willow in the wet places, and dwarf birch (not the creeping birch—*Betula nana*) and juniper on the dry ridges and hillocks. The birches were stunted and bushy to three feet or so above the ground, and the main stems, which appeared to have had severe struggles with the elements, succeeded in reaching a height of about nine or ten feet. Perched in these bare birch-trees the Willow Grouse were conspicuous objects, and could be seen over the undulating plain quite a verst off. These birds are very different in plumage from others obtained in Norway—61° N. lat.—at the same time of year, retaining the white plumage of the body; the head and neck alone were in summer garb.

Seebohm found a nest of Shore Larks with young, and shot a Golden Plover which had *one* of the axillary plumes splashed with smoke-colour.

We shot two of the *Singing Pipits* (the Petchora Pipit), one of which must have been at least an hour in the air, continually rising and falling and singing perpetually. Descending, it raised its wings after the thorough pipity fashion, and perched on trees and bushes as well as upon the ground.

The Yellow-headed Wagtail was very abundant indeed, and we had several vain searches for the nests, and though the birds came close around and minutely watched our proceedings, and were apparently anxious at our presence, no signs of nests could be found amongst the low stunted bushes.

We left the bay about 4.30, and with a favourable wind made some 22 versts. We turned in, and when we awoke at 12 noon we found the boat again lying-to and the men asleep on shore with the small boat over them as a shelter.

Seebohm gave them a rare fright, jerking the boat off and waking them up with a start to a *perfectly* erect position. They took the rough awakening very good-humouredly. We were under the impression that their hauling the boat up was a plant on their part, but we found that it was really not their fault that the wind was not suitable for the clumsy rig and build of the boat. Our sail is lug-shaped, with a looping in the centre at the bottom, but will not work on a tack, and is of no use whatever unless the wind is right astern. Oh for a trim little Scotch fishing-boat. We are 80 versts (54 miles) from Alexièvka still, and the birds will breed oh! soon!! soon now!!

A peasant in the village near where we lay brought us Swans' eggs, but we did not purchase, as he had no bird to show with them, and he wanted a rouble for three. They looked small, and we believed them to be Bewick's Swans. They were taken, he said, four days ago on the tundra 20 versts off, and there were four in the nest, of which one had since been eaten. He told of a place—by name, Pionofskaia za Ostrofka—some 50 versts beyond Alexièvka, where there were many Swans, and he also spoke of Stanavoialachta, another place which had before been recommended to us.

The wind changing a little for the better about one o'clock we again started. It was amusing, at the same time that it was annoying, to see the clumsy attempt made to weather the point, sailing full three points off the wind. It was not weathered, and the oars had to be resorted to. Considering the clumsiness of the boat and unwieldy

tackle and unmanageable sail, the men deserve all credit for the attempt, and though they are no sailors, in our acceptation of the word, they certainly showed some little sense and handiness in bringing her so close up to the point as they did, and making the best of a bad job.

Kuja was visible in the distance, out of our course, over a succession of low-level pasture-ground and other islands, and in the foreground was a small village, with pasturage around, and cattle feeding upon it, two Samoyèdes' chooms, and piles or ricks of hay supported on platforms to save it from the overflow of the river (or even heaped up on the roofs of the houses). A number of boats lay in front of the village, close under the low bank upon which the latter was built. The name of this village was Meekitsa.

Not long afterwards we arrived at Kuja, and there found the cutter and Captain Engel. In the evening we went over to an island opposite in the hope of getting Ducks' eggs. We found a Pintail's nest and eggs, shooting the ♀, a Great Snipe's with three, putting the bird off—the nest, a deepish cup lined with dry grass in a dry part of an opening amongst the willow-scrub.

We also found a Red-necked Phalarope's nest with four eggs—putting the bird off—the nest, a shallow cup of dry grass lined with dry old birch-leaves laid flat on the bottom and coming up part of the sides; placed in a a dry tuft in a small marshy puddle, in which marsh-marigold was growing, and round which plants of aureola-weed * were beginning to appear.

The Phalaropes were very abundant and very tame, and at nearly every green-fringed pool they were to be seen in pairs or small flocks uttering their 'tick,

* *Veratrum album*, J. A. H. B., 1900. We called this Aureola-weed from its growing where we found the Yellow-breasted Bunting (*Emberiza aureola*) in 1872.

tick, tick' as they flew round the pool, or swam on its surface in eager pursuit of insects.

We found two nests of Reed Buntings, and Simeon, the Samoyède, found a Swan's nest with three eggs, which we agreed to leave until later, in order, if possible, to get a shot at the bird.

When we returned to the boat we found the Captain, Piottuch, and an old friend of the latter's making merry. The old friend is the priest here, and was formerly priest at Mezèn. It is eight years since Piottuch and he met, and they were, Piottuch tells me, great friends. Engel was screwed and Piottuch was also stupid, the three having finished two bottles of vodky between them. There are upwards of forty good birds lying waiting to be skinned, and Piottuch has been terribly off work of late.

June 19.

On Saturday, the 19th of June, I lay in wait for the Swan, but she came not.

Mosquitoes were about in force, and under the shelter of the scrub-willow, out of the wind, they punished severely. They were of the small species, with no hump. I slew many for identification, but principally from a craving for blood for blood.

Crossing over the river, I shot a new bird to our list—two Long-tailed Ducks, ♂ and ♀ at one shot, and several more were seen, including two ♂, which Captain Engel gave us to skin. They were heard repeatedly also, crying as distinctly as possible 'Kolgúev.' We suppose they go there to breed! 'Forrard to the norrard is the cry!'

I also saw a Skua—Buffon's, I think, but I cannot be sure of the species. It showed a dark mark on each side of the neck and the centre tail feathers were very long. It was not Richardson's and seemed large for Buffon's.

We proceeded about 8 a.m.

At one place *en route* Red-throated Pipits were seen freely perching high in the willow-scrub, and two were shot in the act.

In sight of Alexièvka—our destination—we landed on a low sandy and muddy island, where we saw two Great Black-backed Gulls, and Seebohm identified a Buffon's Skua—a new bird to our list.

We took eggs of Arctic Terns, and a Duck's nest and down—Pintail, I believe.

We were surprised to meet again with our little friend, the Siberian Chiffchaff, 'cheveting' away amongst the scrub ; and two examples were shot.

Seven Swans were swimming off the shore, and it was they that drew us off first in pursuit.

A *Larus cachinnans* was on the sand alongside the two Greater Black-backed Gulls—the latter a new bird for our list.

Stints were common, but not breeding, as far as we could judge.

Feódor, one of our boatmen, knocked down a Tern as it stooped at him over its nest.

A party of Ruffs and a few Phalaropes, a few Terék Sandpipers and Ringed Plover on the sand, Sedge Warblers and Red-throated Pipits freely perching on the scrub, and two or three of the Petchora Pipits singing overhead, Black Scoters, Wigeon and Pintails, and three large geese (probably Bean), and Reed Buntings and Little Buntings, and Yellow-headed Wagtails and Willow Wrens were about all the others seen.

At Alexièvka 'houses were appointed to us to dwell in,' kindly put at our disposal by M. Arendt, and we got comfortably settled down.

Piottuch skins and sleeps in one little log-hut, and I sleep in another, clean and comfortable, 9 feet by 9 feet.

Seebohm sleeps in a larger room in Arendt's house, where also we write and eat our meals, and have all our effects.

Eggs showered in upon us, and we bought eggs of 'Kouropatki' = Willow Grouse, Bean Goose, and down, and Long-tailed Duck and down, and a nest of five eggs of the Yellow-headed Wagtail.

We got our first view of the real tundra to-day.

To-day we took a nest of White Wagtails' eggs [No. 64 of our list], which were a most unusually dark colour. The bird was well seen twice, once on the nest. The nest is a large structure, composed of fine roots with a very few stalks of dry grass outside, and is lined entirely with Reindeer's hair and two or three spiders' cocoons.

June 20.

On Sunday, the 20th of June, we had a hard day's work blowing eggs; and blew, marked, and catalogued 123 eggs; cleaned, packed, and marked the down of a lot of Ducks' eggs.

Eggs came in rapidly, collected by the Company's servants during their spare time. They are principally Zyriani from Ijma, and appear sharp, knowing, intelligent fellows.

Amongst the eggs brought in were two more nests of eggs of the Yellow-headed Wagtail [Catalogue Nos. 65, 66]. The nests are composed of dry grass outside, and are lined with Reindeer's hair and roots. In one nest there are two Pintail's feathers and one spray of Ducks' (?) down.

A nest and two eggs of *either* the Siberian Chiffchaff or the other small Willow Wren (sp. ?) was brought to us. We offered a few kopeks more to the finder to show us a nest *in situ*.

Two nests and down of Bean Geese with the old birds snared on the nests were also brought in, and a nest of Bluethroats, and a nest of eight duck's eggs [No. 81 of Catalogue] (with down and seven or eight feathers from the birds), which we cannot at present identify.

June 21.

It had been very cold during the night and for the past two days. I turned out on Monday, the 21st of June, for a few hours without having had much sleep. I took a Red-necked Phalarope's nest and four eggs which Simeon, our Samoyède, had found yesterday. The nest was away from the water on a dry open piece of ground amongst long grass.

Seebohm, shooting with a stick-gun, got one Siberian Chiffchaff and a lot of Yellow-headed Wagtails.

I searched for Ducks' and Stints' nests diligently. I shot a ♀ Wigeon off her nest with six eggs. I saw Stints, but amongst the thick willow-scrub could find no nests.

We hope soon to run down—40 versts—to Stana-voialachta, where we understand there is ground more suitable for their breeding, and which is generally recommended for birds over most other localities about here.

We shot also two of the doubtful Warblers, and saw a number of Buffon's Skuas.

Eggs of Lapland Bunting (nest lined with feathers) and of Red-throated Pipit were brought in to-day.

Having now a considerable series of the Leaf-Warblers, we spent some time in an examination of them to-day. Seebohm has taken full notes, and I shall let him do all the havering about them, as he is much better up in the subject than I.

Our greatest discovery was that amongst the lot was

one *true* Eversmann's Warbler,* the same bird which Seebohm shot on the 12th (not the bird mentioned by me *antea* which cried 'twosuk'), and which Seebohm described as having a harsher, 'more white-throaty song than the Common Willow Warbler.' At the time we both were struck with the huge broad bill (reminding me of the bill of the birds of the American genus *Vireo*). It (Eversmann's Warbler) is a very distinct species. This example has a dark centre to the *long* under-tail-coverts.

The Siberian Chiffchaff is equally distinct, and may be readily distinguished from our Chiffchaff by its *white* under-tail-coverts and *white* belly, and *white* feathers on the tarsus, which in our bird are distinctly tinged with yellow.

The *song*, too, of the Siberian Chiffchaff is prolonged, and Seebohm describes it as 'ching-chivie—ching-chivie,' repeated an indefinite number of times, sometimes ending with the 'ching,' sometimes with the 'chivie.' We have as yet only secured one female of this species.

The two Willow Wrens (if they be distinct) are not so easily distinguished, but our series is easily separable into two lots—large and small—which may be two species.

The females of the smaller bird are very *buff* on the breast, but both species seem to be more buff than ours, and remind Seebohm of specimens of the Booted Warbler (*Hypolais caligata*) which he has seen. The two birds have a song almost if not quite similar.

The above notes are copied from Seebohm's, and the following measurements may be of service in distinguish-

* This—our solitary specimen—when examined at Sheffield by Messrs. H. E. Dresser, Howard Saunders, and H. Seebohm, was determined as the true *Phylloscopus eversmanni*, and considered to be the same bird as Alston and I obtained at Archangel. Its true name is *Phylloscopus borealis*, or Eversmann's Warbler.

ing the birds on future occasions. Notes on the habits of the Siberian Chiffchaff are already given as far as hitherto observed.

We have still to find the nests and eggs of these three warblers—that of Eversmann's Warbler we can hardly expect this season.

	Length of Wing.	Tarsus.
Siberian Chiffchaff ♂ ...	... 2·45 ...	·71
Ditto ♀ ...	... 2·25 ...	·70
Small Willow Warbler ♂	... 2·55 ...	·77
Ditto ♀	... 2·45 ...	·73
Eversmann's Warbler ♂	... 2·65 ...	·76
Ditto ♀		
Large Willow Warbler ♂	... 2·70 ...	·72
Ditto ♀	... 2·70 ...	·77

June 22.

On Tuesday, the 22nd of June, the eggs obtained were 164 in number, as detailed *infra* :

Grey Plover ...	16	Bean Geese ...	11
Dunlins	7	Wigeons ...	17
Great Snipe ...	4	Redpolls... ...	16
Lapland Buntings	25	Redwings ...	3
Red-throated Pipits	39	Reed Buntings...	12
Yellow-headed Wagtails ...	10	Tringa temmincki	4

The birds shot to-day were—

4 Grey Plovers at nests.
3 Dunlins.
5 Lapland Buntings.
1 Bean Goose.
2 Red-throated Pipits.
1 Yellow-headed Wagtail.

1 Long-tailed Duck.
1 Willow Grouse.
2 Buffon's Skuas.

Of these the Grey Plover and Dunlin were new to our list.

This was our first day on the Bolshaia Tundra, and such a day! I wrote most of the following notes roughly in my pocket note-book as I lay under a hot sun on the Great Tundra, within fifty yards of our first Grey Plover's (and the first European-taken) nest, containing four eggs.

The first we saw of the birds was as we crossed the Tundra in a line—Pittouch, myself, and three of our men, Malenkai Feodor, Simeon—our Samoyède—and Gavriel; Seebohm was behind searching a low thicket of dwarf birch (not *Betula nana*) for a Willow Grouse's and Lapland Bunting's nests.

Feodor had just before found a Bean Goose's nest with two eggs, and I identified the bird as it flew overhead. As we were walking along I was keeping a sharp look-out for *any* species of Plover, because on the 18th Seebohm shot a Golden Plover which had one of the axillary plumes splashed with brown, and we were half-expecting to find the Eastern Golden Plover, with the smoke-coloured axillaries. We had not much thought of finding the Grey Plover.

When I first saw two birds I went in pursuit, taking them only for the common species, but I immediately afterwards saw my mistake, and identified them with my 'Duke' glass.

I then spoke to each of the men, and told them that half a rouble would be given to whoever found the nest, and Simeon and Gavriel at once commenced to search. Three more pairs were seen flying over the same ground or settling on the hummocks. I may here add that not a

single Golden Plover was seen during the whole day, and every Plover we saw was identified with or without our glasses.

The ground frequented by these Plovers was a level or hummocky stretch of the tundra, which extends for miles on all sides. On each side of the immediate locality is a black tarn. Ridges of dryer ground wind and twist about amongst the slightly lower and wetter places, which latter are soft and peaty on the surface, but frozen hard at the depth of 1 or 1½ feet.

All over the Tundra, but especially in these hummocky places (like the peat-hags of a Scotch moor on a small scale), last year's cranberries are to be found in abundance, and the flowers of the 'maroshka' (*Rubus chamemorus*) appear in smaller numbers. Here and there small bushes of dwarf birch grow, and the whole surface of the drier ground is covered with dwarf rhododendrons—*Sedum palustre*—(which, when crushed, emitted an aromatic and delicious fragrance), with short reindeer- and green moss; and old branches of *Betula nana* wind about amongst the latter.

In the far distance in the east, is a low range of hills culminating in a considerably higher hill with peaks—the Pytkov Mountains. All the horizon around, save in that direction, is low and level.

Simeon soon found a nest with four eggs, just like Golden Plovers', perhaps a trifle larger and with a greener ground colour, and immediately afterwards Seebohm came up, and we both feasted our eyes for a brief space of time. 'Dobra, dobra, Simeon;' and Simeon grinned delightedly—a broad merry grin. It was agreed that I should lie down and wait for the bird. I lay down about forty yards from the nest, well concealed behind a ridge of the drier ground, and began to jot down a few notes in my pocket-book.

I soon heard the cry of the birds and saw them fly round and alight on the tops of the hummocks. Presently one of them ran towards me and then again stood on a hummock, uttering at intervals its note, which I write as a whistle—peelweee—the first syllable short and low, the second drawn-out and louder—shriller than a Golden Plover's. I afterwards heard a pair of the birds uttering the same double note while flying overhead in circles. The birds' behaviour near the nest was exactly similar to that of a Golden Plover, sitting erect on the higher hummocks, whistling at intervals, running rapidly across the hollows, or flying in a circle round the nest, *not*, like that of a Dotterel, sneaking round the hummocks, seldom perching on the tops, and if obliged to go on higher ground, again seeking the hollows as quickly as possible ; *not*, like the Dotterel, running with head low down, except when *leaving* the nest, nor like the Dotterel keeping an unbroken silence. (If the Dotterel be a *little fool* in its mimicry, it is no fool at all at its nest.) I missed both barrels at the bird, first, however, fully identifying him through my glass. I misjudged the distance, my eyes being almost level with the tops of the hummocks. But he soon came again, and after a stalk I shot him—the male. The nest and all the others we examined to-day were deepish hollows lined with a mixture of small broken twigs, dry dwarf birch, and dwarf rhododendron-leaves, and broken pieces of reindeer moss. They were all placed on the drier ridges, but not on the tops of the hummocks. The eggs of all four nests have the same, or nearly the same, greenish ground colour, and the type does not appear to be much departed from in the marking and coloration, as is the case with eggs of the Golden Plover. We took a Lapland Bunting's nest, lined with feathers, and then hastened to meet Gavriel, who had been searching afar off, and who cried,

'Yaitsá, tcheterai stook.' Simeon in another direction, also on his knees, cried, 'Yaitsá, yaitsá.' I went with Gavriel and Seebohm with Simeon.

Gavriel's nest was another Grey Plover's with four eggs. I at once lay down, saying to Gavriel, 'marscheerum,' and he 'marscheered,'* and in twenty minutes I had the female shot within twenty yards of the nest. Buffon's Skuas were flying about, and Seebohm, who came up, went in pursuit.

Simeon's nest was only a Lapland Bunting's. Simeon and Gavriel went to search for the nest of the Skuas, and presently Simeon shouted again, 'Yaitsá,' and we went up to him. 'Dobroi yaitsá,' he said, and beside him was the third nest of Grey Plover. Seebohm stayed to shoot the bird, and the men and I 'marscheerumed.'

Presently I shot a fine Buffon's Skua, my first, and soon after two Geese came towards us, and we all three lay flat down amongst the hummocks. They came over Simeon, but he moved his head too soon, and they rose almost perpendicularly in the air. He fired, but without effect.

Two minutes after, or little more, I again heard him cry 'goosee,' and again we lay down. This time I got the shot and killed one of the pair at a long range. He fell, wings up, legs hanging down, flop into a little clean pool of water, not much bigger than his own body, in the middle of a large dirty peat bog. A single pellet of No. 4 had pierced his head.

Piottuch and *Malenkai* Feodor were now seen approaching, and when they came up they produced down and five eggs of *Bean* Goose, a nest of Lapland Buntings, and a nest of Red-throated Pipits, producing the nest of the former containing feathers, and saying that there were no feathers in the other. Also they had

* Literally, walked, or marched away.

shot one ♂ Grey Plover, a Buffon's Skua, and a Long-tailed Duck.

We then retraced our footsteps and joined Seebohm, who had secured the female Grey Plover of the third nest.

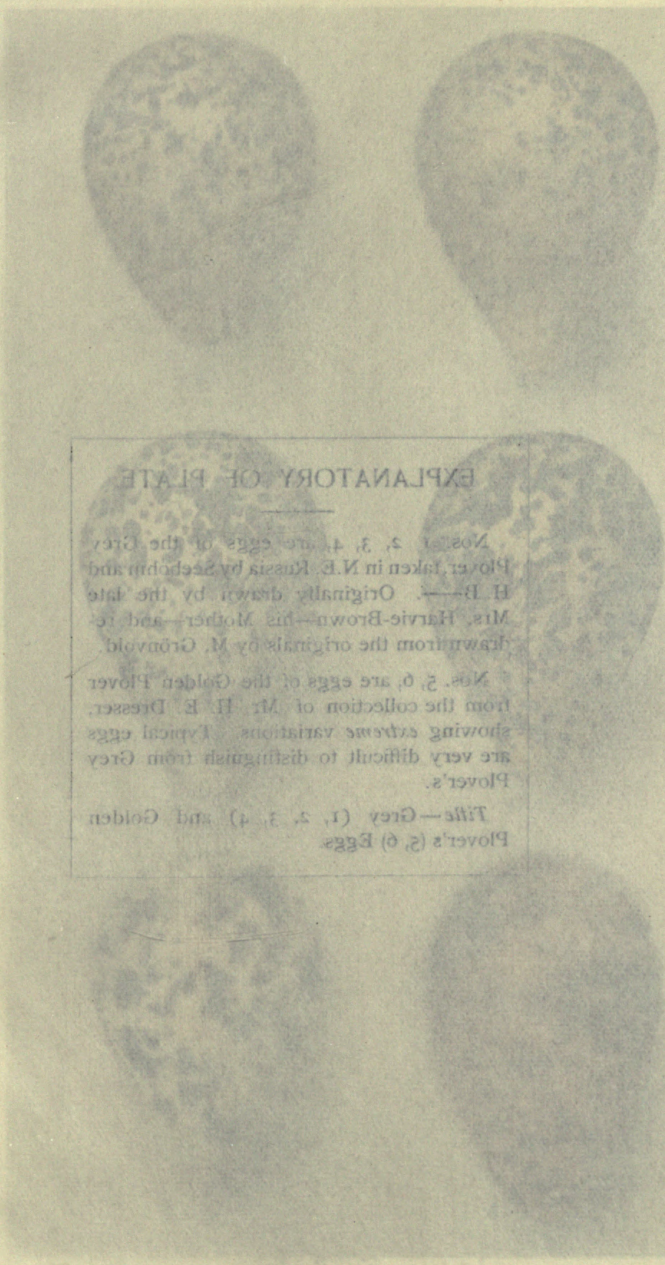
The word was now given, 'marscheerum tam boat,' and we started to go back. Both Seebohm and I and Piottuch were faint with want of food. We ate at eleven o'clock and started about twelve, and it was then past 9 p.m. During the interval we had not eaten anything. Piottuch was suffering severely from rheumatism in his left shoulder and side of the neck, but he rejoiced exceedingly with us at our success. 'Très bon chose, monsieur, très bon chose pour vous.'

Plodding slowly on, another Grey Plover started up, close to one of the above-mentioned tarns, and marking the spot, after a short search I found the nest, again with four eggs. The others went on, and after waiting half an hour or so I shot the female within ten yards of the nest. I packed the eggs in the leather case of my binocular, and after a weary drag of two versts over the hummocks and through the peaty bogs, I joined the rest of our party at the boat, and we returned, tired but rejoicing.

On the tundra we got two nests of Dunlins also, and various nests of Lapland Buntings and Red-throated Pipits, and at one of the little marshy-edged tarns I identified a Little Ringed Plover.

On a sandy spit of an island where we landed in the early part of the day we found three nests of Temminck's Stints, *sans œufs* and saw a Little Ringed Plover which we believe had a nest. The Stints' nests were amongst patches of wrack left by the flood, and one was quite amongst the willows, deep cups lined with wrack and withered grass.

After we came in the Zyriani brought us piles of nests



GREY AND GOLDEN PLOVER'S EGGS.

EXPLANATORY OF PLATE.

Nos. 1, 2, 3, 4, are eggs of the Grey Plover, taken in N.E. Russia by Seebohm and H. B——. Originally drawn by the late Mrs. Harvie-Brown—his Mother—and re-drawn from the originals by M. Grönvold.

Nos. 5, 6, are eggs of the Golden Plover from the collection of Mr. H. E. Dresser, showing *extreme* variations. Typical eggs are very difficult to distinguish from Grey Plover's.

Title—Grey (1, 2, 3, 4) and Golden Plover's (5, 6) Eggs.

GREY AND GOLDEN PLOVER'S EGGS.

and eggs, Bean Goose's with down and snared bird, and nests and eggs of Lapland Buntings, Red-throated Pipits, Yellow-headed Wagtails, Redpolls, Reed Buntings, and Wigeons, and a nest of four Kuleek's * eggs, bigger than Temminck's Stints' and smaller than Dunlins'. We keep them at present. What can they be ? †

June 24.

Last night eggs showered in upon us again, of the same species as before, and one nest of five eggs of the Singing Pipit (the Petchora Pipit), large and lark-like. Also a nest of Warblers' eggs, which are doubtless Willow Wrens', and are much too large for those of such a small bird as the Siberian Chiffchaff.

We visited another Warbler's nest to-day with the finder, whose services we have secured for the day by paying the manager his day's wage. He had set a snare when the nest contained one egg, but to-day there were two, the bird having passed between the two nooses. We hope to identify this nest yet.

Coming back we took a nest of the Yellow-headed Wagtail placed on the ground between two sticks among long grass close to a rough footpath through the thicket.

It may be here noted that the eggs of Grey Plover in two nests had been incubated a few days before, but perfectly fresh in the other two. (Ah, brother 'Ibises'! omelette of Grey Plover's eggs is delightful.) The shells when held to the light are bright green in all the nests, and when scraped are also green. The Duck's eggs are still all fresh. The Geese eggs of a week ago are badly sat upon and are all we have got. The Red-throated Pipit's eggs are mostly sat upon. The Temminck's Stint's are fresh or slightly incubated. The Phalarope's

* 'Kuleek' is a name generically applied by our men to Sandpipers.

† I forget whether we made them out or not, but I think not [1900].

are all quite fresh. The Yellow-headed Wagtail's fresh or slightly incubated. The Singing, or Petchora, Pipit's nest of five, quite fresh. The Dunlins' are sat upon. The Redpoll's and Mealy Redpolls' fresh or slightly incubated.

It should be mentioned that Seebohm shot certainly the handsomest Sparrow we have ever seen—a male House Sparrow. Another came a day or two afterwards, but has since disappeared.

June 25.

We left Alexièvka the morning of Friday, the 25th of June, on a visit to Stanavoialachta, 40 versts lower down the river, whence we can work both the tundra and some of the further islands. Stanavoialachta is at present uninhabited, and was the former lading-place for vessels coming for wood, and was erected by the Company.

About 10 versts from our destination we stopped and shot and collected for some hours, drawing the boat to shore at the mouth of the Youshina River.

Seebohm worked the tundra on the right bank of the river and I the left, accompanied by Simeon and Malenkai Feodor. Simeon found a Plover's nest, and I waited and shot the bird—a Golden Plover. The nest was practically the same as that of the Grey Plover's we took the other day, and the eggs are very similar. The behaviour of the bird was exactly similar to that of the Grey Plovers, but it was perhaps not quite so wary. Both species are, however, easily shot at the nest.

A Bean Goose's nest was the next find, by Feodor, containing seven eggs, of which he took six, leaving one in the nest. I afterwards shot the Goose off the nest as we returned to the boat.

After a long search, Feodor found a nest of the Willow Warbler and I shot the bird, watching till its return to the nest. The bird was shy, taking long flights in a wide

circle round me and the nest, and it was some time before I secured it. The nest is covered over as with that of our English bird. It was necessary to identify it, to assist in the identification of future nests, as we were in hope still to get one of the Siberian Chiffchaff.

We (Seebohm and I) got nests also of Ringed Plover, Lapland Bunting, Red-throated Pipit, Bluethroat, Reeve, Temminck's Stint, and Willow Grouse.

The Bluethroats and Reeves were on the point of hatching, and so we did not take them.

The Willow Grouse's nest was found by Simeon, who is turning out a valuable assistant, especially on the tundra.

Birds shot were *Larus cachinnans*, four, one of which is a remarkably small bird. Buffon's Skua, two; and Arctic Skua.

This last bird differs from Buffon's Skua in having the centre tail feathers very short, in the head being brown, not black, and in the brown colour on the under parts covering only the tail coverts, and not the belly. It is also a good deal larger. The feet and legs are also entirely black, whereas in Buffon's Skua they are blotched with lead colour, or the legs are lead-colour and the feet only black. The black cap of the Buffon's Skua also extends further down the neck, and is more pointed and sharply defined than the brown cap of this bird.

We also shot a female Wheatear, Dunlin with very rich-coloured back, Long-tailed Duck, Reeve, Bluethroat, etc.

I saw one Grey Plover only, identifying it thoroughly with my glass, and saw it and also a Golden Plover—also carefully identified—exercising a phase of flight not hitherto observed by me. When high in air the flight resembled that of a Tern, the wings being raised until they nearly meet over the back, and the birds rising and falling in their flight; dipping just like a Tern and uttering their notes at the same time.

It may be worth noting that up to this time the Golden Plover shot by us have in each instance some of the axillary feathers splashed faintly with brown or smoke-colour, and one which Seebohm shot has one feather quite darkly marked with the same colour. Hitherto we have only noticed the double note of the Grey Plover before described. We have yet to discover if it also utters the single note as in the case of the Golden Plover.

Some parts of the tundra here are very beautiful. It is simply a vast undulating moor covered on the tops with Reindeer moss, green moss, and grasses, and black crow-berries, and in the hollows and by the sides of the numerous little pools and tarns, with thickets of low scrub, and dwarf willow and birch. Small streams a foot or two in width and the same or more in depth, often unite these little tarns, and by the side of one of these, in an opening amongst willow-scrub, I found quite a little forest of the *aureola* plant (*Veratrum album*), marsh marigold, golden saxifrage, a dwarf geranium, various grasses and plants I am, unfortunately, not acquainted with, and a quantity of wild, broad-leaved sorrel, on which latter I made a good feast. On little mounds near the lochsides immense numbers of dried and withered Arctic Bramble leaves are scattered, showing what a rich feast one could have had last season; and amongst these cranberries are plentiful. Owing to the continuation of cold winds this summer it is predicted that we shall have few Arctic brambles, and the show of blossom is certainly very small.

On one of the little lakes I saw two male Scaups, two pairs of Long-tailed Ducks, a Black Scoter, a pair of Bean Geese, a pair of Wigeon, and a Black-throated Diver.

I fired at and wounded a Red-breasted Merganser, the first we have seen, and a new addition to our list.

A pair of *Larus cachinnans* had a nest on a small

green island on another lake, and I shot one of the birds as it came flying towards me. The other bird returned to the island, and a Buffon's Skua made a dash at it as it apparently hurried to its nest.

June 26.

We arrived at Stanavoialachta on the morning of Saturday, the 26th of June. The wind having been strong against us we were obliged to seek shelter for our boat for the night at the mouth of another small river, where there was a party of fishermen encamped. Our men had to track our clumsy boat most of the distance against wind and tide, two men on shore with a line attached to the mast, and the other two assisting by poling at the stem and stern.

We found the houses at Stanavoialachta in a most ruinous condition, the floor of the largest being covered with mould and damp and a huge pile of snow.

We occupied most of the forenoon repairing and making habitable two others, Piottuch choosing the old bath-house, and soon raising the temperature by setting the stove a-going, and we re-roofing and filling up holes and windows with the aid of nails and planks torn off the other houses.

Our chamber was still cold, but, as usual, I preferred to sleep in it to being smothered in Piottuch's close bath-house. Seebohm preferred the hotter room.

I strolled out in the evening, the wind north, high and cold. We identified two nests of Meadow Pipits, shooting the bird off one nest and catching the bird on the other.

Seebohm explored the coast-line, a steeply-sloping earth-bank, hacked and ragged and worn by the streamlets of snow-water seeking the lower level of the river. Here he found an eyrie of the Peregrine Falcon, and the

nest contained four eggs. It was placed on the top of a low conical mound on the sloping bank below the level of the tundra, which is here about 90 feet above the river, amongst a patch of bright green grass, in a hollow scraped in the earth. I went afterwards with him to try and shoot the bird, and fired thrice ineffectually. We took one egg, leaving the others till later.

On the way we came upon two Dotterels, the first we have seen, close to our house. To-morrow, with Simeon's assistance, we propose to make a search for the nest.

June 27.

On Sunday, the 27th of June, after a long sleep, we set out for a day on the tundra.

We first visited the Peregrine's eyrie again, and failing to get a shot at her leaving the nest, Piottuch tied up his faithful hound 'Isaak' (faithful, I believe, only as long as anything remains in the pot—*useless cur!*) close to the nest, and we waited a long time for the chance of a shot if the birds stooped at the black invader. But Isaak proved as useless to us in this matter as in all others.

We left the eggs, and Seebohm and I went to a Stint's nest he had found yesterday, from which I shot the bird, which proved to be only Temminck's.

Nests of Bluethroat and Mealy Redpoll were found, and some 'Kouropatki' shot.

Seebohm, who had felt rather seedy, went towards the hut, and made a collection of the flowers of the tundra, and I and our faithful Samoyède struck across the higher ground fringing the coast south of the huts. We took a Willow Grouse's nest of thirteen eggs on the way, and on another green mound we found a second Peregrine's eyrie, the female flying off the nest, and the male rising from a neighbouring ridge. Simeon went to the nest,

and I remained a little above to shoot the birds if they stooped, which both male and female did in succession. First shot I hit the female bird hard, but she recovered and went off. Then the male continued plunging, sometimes at Simeon sometimes at me, and offering, perhaps, one of the most puzzling shots known. I missed three shots taking him on the *rise after the stoop*, but the fourth, as he came *straight at me, almost perpendicularly*, stretched him dead on the grass.

The nest contained three eggs, large and handsome. This eyrie is not more than a mile distant from the other one.

On the tundra afterwards Simeon and I found several nests of small birds, a Golden Plover's with four, the bird being shot, a Black-throated Diver's and a Long-tailed Duck's with eggs and down. Simeon distinctly said, 'Neat chorna ootka; malenkay.' I said, 'Neat chorna,' pointing to some Black Scoters on a tarn, and he repeated 'Neat, neat.' I then imitated the cry of the Long-tailed Duck, 'cow, cow-wie,' and he said 'Da, da;' grinned and nodded his head.

The Long-tailed Duck appears to be quite the commonest Duck on the tundra, and the only others seen by me to-day were Black Scoters and one pair of Velvet Scoters, the only ones we met with (*see infra*).

Coming home I saw a pair of Arctic (Richardson's) Skuas performing various curious antics on a level part of the tundra, which told me the nest was close at hand. The birds often alighted within fifteen yards of me, raised the wings above the back—when they did this the white or dusky quills showed like a patch upon the raised wings—shammed lameness and sickness, and stood reeling from side to side as if mortally wounded. If I followed them, they continued to try and lead me off; but if I again approached the nest, they flew boldly towards me, and

stooped repeatedly. The nest contained two eggs, and was placed on a tussock in a marshy piece of ground, similar to the place where we found the Grey Plovers breeding. It was sparingly lined with reindeer moss and leaves of the surrounding plants.

Two Swans flew overhead towards the river.

It should be mentioned that yesterday one of the Meadow Pipits I shot from the nest perched in a scrub-birch bush, whence I shot it. I saw another to-day perch in a willow.

I noticed again to-day the peculiar Tern-like flight of the Golden Plover, and for the first time the Tern- or Kestrel-like hover of Buffon's Skua.

The wind is warmer to-day, but still from the north-west, and high.

June 28.

The morning of Monday, the 28th of June, the wind had dropped, and the sun came out bright and warm.

I went to the first Peregrine's eyrie, stalked up the conical mound to within three yards of the nest, wounded the female severely as she flew off—a very snapshot—finished her with another shot, and returned to the house with eggs and bird.

Stanavoialachta is close to Boluanski Noss.

Seebohm took a sketch of the coast, bay and tundra, from the hill above the second Peregrine's eyrie, and shot a solitary Tree Sparrow on the roof of one of the huts. He also took a nest of Redwing's eggs at Stanavoialachta.

We then took advantage of the light wind from the north, and returned to Alexièvka, landing twice on the way, and taking eggs of Red-necked Phalarope, Reeve, one Red-throated Diver; and two Duck's eggs with a scrap of down, which we believe to be Shovellers, as I saw a fine male alight on the little pool close to the spot, and

being afterwards joined by the female, both flew off to some favourite feeding-ground.

This little pool was on the low, flat, marshy, grassy island, where Reeves and Phalaropes were very abundant.

Eggs of the Yellow-headed Wagtail were taken close to the house [presumably at Stanavoialachta?].

We did not again see the Dotterels at Stanavoialachta, and can hardly think that they are breeding yet.

When we arrived at Alexièvka, eggs again 'showered' in upon us, and amongst them were three nests of the Singing, or Petchora, Pipit. We have now four nests of eggs; five seems to be the usual number of eggs laid. They are very Lark-like, longer and larger than Red-throated Pipits, and the two types we have obtained are light grey mottled and ringed at the larger end, and dark burnt umber or sepia, indistinctly mottled, and also ringed and darker at the large end. The nests are also very distinct from those of the Red-throated Pipit, being all lined with coarse, broad water-grasses, whereas all those we have seen of the other species are lined with small, round grasses, and are of more compact construction.

June 29.

Tuesday, the 29th of June, was a wet day. We blew eggs. Many are now hard set, but fresh relays of Ducks' eggs come in.

We got a nest of Black Scoters and down—the first. In Norway they were late breeders, and are likely to be so here also.

The cutter arrived to-day with Captain Engel. M. Arendt is still up the river with the steamer, but is expected every day. Possibly he is still awaiting the arrival of the praams with provisions. We long for his arrival, as we hope to get letters brought down from Ust Zylma.

To-night a fisherman from beyond Boluanski Bucht brought in two Swan's eggs, and said that the bird of the nest is in the hands of another peasant near Stanavoialachta.

We foresee that we shall have some difficulty in tracing this bird and getting it. Piottuch, as usual, says, 'Il est impossible,' but we say, 'Toutes choses sont possibles, monsieur.' We offered to-night 5 roubles reward for eggs and bird of any species of Swan. All the Swans' bills we have seen as yet are those of Bewick's Swan.

We have still a good chance, when the '*Swan-upping*' comes off, of examining a number of Swans' skins, and we have given Piottuch instructions to secure all the bills he can during his return journey to Ust Zylma. All caught prior to the beginning of September are secured by peasants in the delta, but those which go to Piñega Fair after that date come from Kolguev—so Piottuch says, but all this information must be taken *cum grano salis*.

Simeon found to-day two nests of Swans. He brought two eggs from one nest, which he found lying, one some yards out of the nest on one side, and the other some yards from the nest on the other. He thinks that this is the nest of a Swan which he killed some days ago, and which fell into the river and was lost, and that the male had scattered the contents of the nest when he found that the female had not returned. The other nest contains four eggs, and to-morrow he and Feodor are to go to set an iron trap for the bird.

June 30.

On Wednesday, the 30th of June, we went in Captain Engel's boat to Vasilkova Ozero, where some of the Company's timber is lying, and walked over a part of the tundra there, but without great success. Numbers of Golden Plover were seen, but only one Grey Plover, though it is only 4 versts across the lake, or branch of

the Petchora, to the ground where we took the eggs of the latter bird on the 22nd. The Grey Plover, so far as we have seen, appears to be much more locally distributed than the Golden Plover on the tundra.

We took seven eggs of the Black Scoter, shooting the bird off the nest; searched a sandy, hilly tract for Stints and Little Ringed Plover without success, but in a marshy hollow found a pair of Wood Sandpipers, with three of the young in down, hatched a day or two ago; saw a fine Sea or White-tailed Eagle, a Hen Harrier, and a few Shore Larks. The latter birds, which were so numerous during migration at Ust Zylma, are scarce on the tundra hereabouts, there being little ground suitable for them. To-day also we saw the first Raven we have seen on the tundra.

Coming home we saw two Peregrines, but the men who rowed the boat—Zyriani—told us the eggs had been taken and eaten prior to our arrival. We saw the old nest on the top of the bank, and almost level with the tundra. Sitting on the nest the bird's head must have been just below the level, and she must have sat quite in a hollow, and had no view on any side—a most curious position. Indeed, I am sceptical about it being a Peregrine's nest at all, as there seemed to be too much material—dry leaves, etc.—and the nest, to my eye, more resembled that of some Duck, though there was no down in it.

Before starting this morning I put a female Scaup off her nest, with nine eggs. I missed the bird, but identified it clearly. The down has white tips, and we have some six or eight nests of Ducks with the same down.

Simeon and Feodor started at the same time that we did in our little boat, and at midnight had not returned. We hope the Swan is by this time safely secured.

The Little Stint we almost despair of finding, unless we can get a run out in the steamer to the Golaievski

Banks, which form the continuation of the Timanski Peninsula or Russki Zavarót. But the steamer does not go there for a month yet.

July 1.

On Thursday, the 1st of July, the steamer arrived, and right welcome was our large packet of letters from home, the first we have received since the last winter post came in to Ust Zylma. The first summer post only came in to Ust Zylma last Sunday.

All news to both of us is good, and things are going on much as usual—warlike rumours at Berlin, Arctic Expedition; and Captain Boyton's feat of swimming the Channel!

Feilden writes, and by this time has (or now very shortly will sail) sailed in the *Alert*, the advance ship of the Arctic Expedition.

The first letter of my batch is dated from home 7th of April, and the last 13th of May. I have one also dated 3rd of April from Newton, one from Feilden, and others from Alston, from Bob Patterson at Manila, etc.

But not so good news was Arendt's account of the probabilities of our returning by sea, nor that contained in printed directions to ships entering and leaving the Petchora, written by the former manager, Mr. Mathiesen. The Company do not guarantee a sufficient supply of timber to load ships with if they arrive prior to the 27th of July, so if they come, they come at their own risk.

There is also great uncertainty as to the time of arrival owing to the winds. If the present north-easterly wind continues, it will drive the ice down to the bar of the Petchora from the Arctic Ocean, and prevent the ingress of vessels; and as the voyage from here to Copenhagen averages a month and a few days in duration, it is quite possible we might not get home until the beginning of October.

It just shows how utterly unreliable all information obtainable here is, and the unbusinesslike, careless way of Russian mercantile transactions of any kind. We almost cease to believe now any statement made even in print, if by an ordinary Russian man of business.

We are now quite uncertain what is best to be done, and how to return. Our heavy baggage will be an incumbrance by the river route, and if we decide to go by the latter we should leave this place in a week or ten days at latest. We have fixed nothing yet.

Birse writes that the Dvina ice was expected to break up about the 7th of May (Old Style), and again that the Dvina was quite clear of ice some days before the 14th of May (Old Style)=26th of May (New Style). So the ice on the Dvina and Petchora rivers must have broken up within a few days of one another. The Petchora appeared to be quite clear of ice on the 23rd of May (New Style). He writes also that on the $\frac{12th}{24th}$ of April they were luxuriating on Snow Buntings, which could be bought at half a kopek each.

I have forgotten to mention the return of Simeon and Feodor from an unsuccessful raid against the Swan and her nest. They returned, reporting that the bird had gone into the trap, but that only a bunch of the breast feathers were left, and that it was much too small and weak to hold a Swan. They have gone again to try what can be done, and also to search for another nest.

We feel somewhat unsettled until we can finally decide by which route we can return home. There can be no comparison as regards comfort between the two, nor as regards expense. The sea route is far and away more comfortable and less troublesome, and less expensive, and, after all, the difference in time of our arrival at home would be only a fortnight or three weeks later. From here to Copenhagen would cost us about £12, and from Arch-

angel to England about the same money. Thus we should have all the additional expense between this and Archangel, which is easily calculated (or rather, between Ust Zylma and Archangel), and which amounts to 300 roubles for two persons.

July 2.

We lost the whole of the day, the 2nd of July, owing to the absence of our two men and this north wind. We were kept prisoners, all owing to our clumsy, unshapely, unmanageable hulk of a boat, with its tangled confused gear, chainless anchor, keelless bottom, cramped room, and utter incapacity for any kind of useful work or for going in any direction a single point in the wind. Oh, for a Newhaven herring-boat, or a keeled boat of any kind!

We are enduring forced inactivity with the tundra in sight, and no doubt lots of Swans breeding on the islands around and only requiring searching for.

Our men returned, again unsuccessful. The Swan had never returned to the nest. They were there a whole day watching. They brought the four eggs back.

July 3.

On the morning of Saturday, the 3rd of July, the wind actually proved favourable, quite gentle *enough*—oh! wonderful to relate—for our old tub of a boat, but still from the northward, and cold.

If this north wind continues much longer we shall certainly be very late in getting home by sea—which route, however, we have finally decided upon. The far-out mouths and channels of the great river are now blocked up with Arctic ice, which will remain there as long as the north winds continue, and delay greatly the arrival of vessels.

The river water has fallen, however, about six feet

since our last visit to the Alexièvkai Tundra on the 22nd June.

Before landing on the tundra we found a Ring Dotterel's nest with four eggs, on one of the islands, and shot the bird.

Our men struck off in a different direction from us, and when they rejoined us had done nothing. They had traversed the old ground where we took the Grey Plover's eggs on the 22nd, and we had taken a new stretch of tundra more to the right (or south-east).

Seebohm and I, lying some hundred yards apart, spent fully two hours over a Plover's nest, and after the nest was found, Seebohm lay quite another hour to shoot the bird. He had watched the female on to the nest, and when I fired off my gun saw the bird leave the spot. We found the nest with four eggs, and he remained to try and shoot the bird, but after a weary wait was not successful. He fired at, and we believe wounded, the female, as only the male returned afterwards. We both, to-day, distinctly heard the birds utter both a single note and the double one, watching the birds within a few paces' distance.

No Golden Plovers were seen inland on the tundra, but near the riverside at a place called Bougré—a fisherman's empty hut—several pairs were seen and one bird shot. Here also was one pair of Grey Plovers.

Close to Bougré a flock of about a hundred Buffon's Skuas were hovering overhead, and we got right in amongst them, Seebohm shooting six from one and the same spot. They behaved in exactly the same way as a colony of Terns. When one was shot the rest of the flock swooped at and hovered over us, and we shot a dozen birds, some with dust shot.

One bird, which was particularly persevering in its attacks, led to the discovery of a young bird in down

not more than two days old (which we *at present* consider rather a prize), but we found no nests or eggs, though pairs of birds when at rest were dotted all over that part of the tundra. After a time the flock would depart for a quarter of an hour, but repeatedly came back, and had we had sufficient cartridges we might have secured many more.

About a dozen or fifteen Herring Gulls were frequenting the same piece of ground where we first saw them, but they at once took their departure when Seebohm arrived. He preceded me, as I remained behind with the men to watch the above-mentioned Golden Plovers. The shooting, however, disturbed the latter, and we did not succeed in marking the female to the nest.

To-morrow—wind permitting—we purpose to visit Bougré again and renew our search for the Plover's nest and for those of the Skuas.

One Richardson's (Arctic) Skua was shot also, which rose from amongst the others and flew towards us.

We shot a few Dunlins, and found one young in down.

To get back to Alexièvka, our men found it necessary to get on an 'offing' by rowing out against the wind and then sailing back before the wind—which was quite light—to Alexièvka, thus nearly doubling the distance.

The steamer *sailed* up to Kuja this evening, and Konórsky, the Jew—who was left behind—cooked for us an excellent meal of (very) salt beef and bread fried in butter. We feel the want of really good food, and fail to get into what, in Scotland, I should call really good training.

We sent letters to-day by the steamer—first to care of the priest at Kuja—Piottuch's old friend—with all enclosed to M. Znaminsky, to be re-forwarded to Mr. Birse.

July 4.

On Sunday, the 4th of July, a peasant found another Swan's nest with four eggs, and it was arranged, not without some misgivings on our part, to let 'Cock-sure P.' try to secure the bird, and at 3 p.m. he started for the nest with a guide.

At 4 p.m., after a morning's blowing of eggs, we sailed over to Bougré to renew our search for Skuas and Grey Plovers.

Just on landing I shot a ♀ Black Scoter off her nest, which contained seven eggs.

On the tundra some time afterwards Seebohm and I both lay down and succeeded in watching a Skua to her nest. We were lying 150 or 200 yards apart, and, as it afterwards turned out, the lines from our respective places formed an obtuse angle with one another at the nest. The bird flew round, every now and then alighting at different places. At the place where the nest was the bird was seen to alight four times and crouch down, apparently first re-arranging the eggs with her bill. She always flew direct to and alighted upon the nest. We gave her plenty of time, and when she alighted the fourth time we both started up and ran direct to the spot. Neither of us was more than a yard out of our direct bearings.

I lined the spot by a distant point of an island on the river, and Seebohm by levelling his gun at it. I shot the bird, which to our chagrin turned out only a Richardson's (Arctic) Skua after all.

A Grey Plover's nest with three eggs was found in precisely the same way by Seebohm and myself and Feodor, each of us at the same time rising and going straight to the nest. Seebohm shot the female.

To-night the men brought in eggs of the Siberian Chiffchaff at last. The nest was the same as that of

the Willow Warbler, but the eggs are infinitely smaller, about half the size. They also brought a couple of Red-throated Diver's eggs with the bird, which they said was trapped on or at the nest. I have still to learn how that was managed, knowing the difficulty attendant upon trapping Divers at their nests in Scotland.

July 5.

On returning to Alexièvka—it was now Monday, the 5th of July—*a message came from Piottuch for one of us to go and relieve him!* He had lain from, say, 4 p.m. till 11 p.m., and had never seen the Swan.

I wrote the following notes as I lay under a network of green branches in the midst of a dense thicket of willows two and a half versts from Alexièvka, thinking myself all the time a fool for my pains, but feeling that, in justice to the man who found the nest, we should do all we could to secure the bird.

I wondered further what Wild Swan under the blue vault of heaven would come to its nest when a path a yard wide had been beaten down to shoot along, and a conspicuous hut of branches built within view of it, and easily seen from above. A *three-storied house* might just as well have been built; the chance of a shot would have been no worse and the place been more comfortable.

The north wind blew keen and cold, and I had foolishly trusted to Piottuch's sense, or at least his fondness for creature comforts, and to his having a màlitza; and took no màlitza myself. Live and learn.

But cold and discomfort would be nothing if there was the ghost of a chance of a shot, which I have no hope for, *unless the Swan has bad eyes.* As Simeon said before at Kuja, 'If the Swan has bad eyes he will shoot it.'

I am in for five hours of it, however. I'd like a glass

of 'brandy and maype *wan of ta talishker after, which will be petter.*'

The Swan's nest was a huge crushed-down dome-like structure of dried grass, and the four eggs are covered over with the same material. On both sides there is a lake, but, though close to the nest, invisible, or nearly so, from the dense nature of the thicket which is all around the nest and within two feet of it. There were no beaten paths leading to it made by the Swans. 'Cock-sure' supplied that desideratum. At 5 yards in the thicket the nest would be invisible to a man lying down, and at 20 to a man standing up (in some directions invisible at 10 paces, or even less).

Piottuch's *petit maison* stood proudly and 'cock-surely' at the end of a fine broad avenue, and a loop-hole was left in the wall, whence the Swan's nest could be covered with a culverin. To add to the comfort of the house, Piottuch had been spitting all over the *carpet!* and innumerable papirosse ends were heaped up in a corner, I suppose used to supply the want of a fire and a good going chimney.

At 2 a.m. the guide arrived, bringing my màlitza and pimih. I expressed my disapprobation of the architecture and laying-out of the grounds and levelling of the lawn grass, pointing the finger of scorn and saying in the best of (my) Russ 'neet dobra,' which in vulgar English would be differently rendered!

At 7.30 Piottuch returned, and I left him to watch, and relieved him again about one o'clock, but I could not be prevailed upon to remain again.

Nothing I said could convince Piottuch of its inutility. 'Ah, monsieur, c'est rien,' meaning that the Swan was blind and stupid, and that *he* was all-wise.

After returning I slept, and while I was sleeping Seebohm unravelled the mysteries connected with the

Duck's downs which have troubled us so sorely. It is all clear now. We have eggs of nine species of Duck, and the down—Seebohm says—is quite easily separable. Later I will add descriptions of these downs. The Ducks are Pintail, Wigeon, Teal, Shoveller, Scaup, Long-tailed Duck, Black Scoter, Smew, and Goldeneye.

July 6.

In the afternoon of Tuesday, the 6th of July, we went down to Stanavoialachta with the steamer, principally in order to trace, if possible, the head or bill or skin of the Swan which was shot or trapped on the nest, with the small-sized eggs of which we bought from the fisherman on the 29th of June (p. 392).

Fortunately on our arrival there some fishermen told us where they could be found, and while Seebohm landed at Stanavoialachta to shoot, I went along the shore with our two Feodors, and found the boat and men fishing about 2 versts south of Stanavoialachta (Engel calls it Lachka for shortness). They told us that the Swan's skin had 'marsheered' to Mikitza, 5 versts beyond Kuja.

We hope now to get the head, and 'Malenkai Feodor' (our clever, sharp, active little Feodor) will be entrusted with the job. With a little training, Feodor Feodórovitch would make a good head collector, and Piottuch has already planned his teaching and engagement. But Piottuch's 'school' is, unfortunately, not the most desirable one to learn in. If Mr. Wolley were living, and had the training up of Feodor, he would soon make him a 'good man.'

Walking back over the tundra I shot a Dotterel, and soon after met Seebohm.

I saw two Peregrines, ♂ and ♀, at the second eyrie from which I shot the male before on the 27th of June.

The male appears to be the same very small male which we saw before at the first eyrie.

We then took a longish stretch across the tundra, making for the loch where I saw the two Velvet Scoters on the 27th of June, in the hope of finding the nest. Before we had gone a verst we stumbled right upon the nest, the bird flying off and Seebohm rolling her over before she had flown ten or fifteen feet. The nest contained eight eggs, and was placed far away from water under willow-scrub, in a hollow full of dead willow-leaves and encircled with a large quantity of down. The bird as she rose close to our feet, just for a second through our mosquito-veils, looked *so* like a Blackcock; being just about the size and showing the conspicuous white patch on the wing. This makes the tenth species of Duck of which we have procured the eggs and down.

We found to-day also young of Willow Grouse, Lapland Bunting, and Shore Lark. Seebohm shot another Dotterel and I three young Willow Grouse.

The mother of the young Willow Grouse was very solicitous for her brood, running within four yards of our feet. We took three of the young birds, and left the parents unmolested, of course, to take care of the remainder.

Oh! the 'Kumahre' were—'oh! very bad, very bad,' as the Captain says, and the vail I had was a complete failure without a broad-brimmed hat. The parts of the face and neck *most requiring* protection are the forehead, temples, ears, behind and under the ears, and the back and sides of the neck. Mosquitoes do not usually attack the face much, and it might almost be left exposed. The hands and wrists also suffer. I protected mine to a considerable extent by wrapping them up in my silk handkerchief and holding the corner with my left hand, so

that if a bird rose I could at any time slip my right hand out quickly enough to shoot, even when it was a snap-shot. Seebohm has hitherto worn the cavalry gauntlets recommended by Rae, but I have not as yet *ventured*.

The wind changed at last, and was now blowing down-stream but gently. Soon the ice will leave the coast at last, and our long-wished-for but only lately-planned trip to Varandai will, we trust, take place. We give up the Golaievski Banks and the Timanski coast, as it is almost a trip of magnitude to either, whereas Varandai, though a longer voyage, can be more easily done; and being further east and reported as good for birds and quite in the track of migrants, and having shores, sandy and grassy, suitable resorts for the Little Stint and possibly the Curlew Sandpiper; having a cooler temperature, owing to the Arctic ice lying along the shore longer in summer and causing the birds to breed later, we have decided, and with Arendt's kind promise of assistance, planned our trip there. The steamer is to take us, and land us there with our men and boat, and return for us in ten days afterwards. (As will be seen this excursion was never made out.)

For some time past Ducks have been seen still on migration, high in air, making, no doubt, for the distant breeding haunts in the Arctic Seas. One large flock we thought were Eiders passed yesterday.

July 7.

On Wednesday, the 7th of July, the wind was south, warm and strong.

We had frantic struggles with mosquitoes in our room, and in the end were fairly successful. We got door fixed up in '*moi doma*' and holes stuffed up, etc.

To-day Seebohm and I went over our Ducks' downs carefully, and on the whole satisfactorily, and I give here

a *résumé* of the conclusions arrived at and the comparisons made.

We have over 400 Ducks' eggs of 10 species, every set of eggs accompanied by down, and in certain cases by the birds shot from the nests.

Firstly, in our examination of downs it is of great importance to have a good light without direct sun-rays—in fact, an artist's light.

We have to the best of our power formed an artificial table classifying the downs of these ten species as follows:—

A. White downs	1. Smew. 2. Goldeneye.
B. White-tipped downs	1. Pintail. 2. Wigeon.
C. Large dark downs without white tips	1. Black Scoter. 2. Velvet Scoter. 3. Scaup.
D. Small dark downs without white tips	1. Long-tailed Duck. 2. Shoveller. 3. Teal.

DESCRIPTION OF DUCKS' DOWNS AND EGGS.

A

A 1. Smew.—Down large, grey-white.

Eggs about 2 inches long, pale cream colour.

A 2. Goldeneye.—Down scarcely to be distinguished from the last, but has a slight blue tinge—*blue-grey-white.*

Eggs about 2½ inches long, bluish-grey or greenish-grey.

B

B 1. Pintail.—Down medium-sized, brown with pale centre, indistinctly tipped with white.

Eggs about 2 inches long, greenish-brown.

B 2. Wigeon.—Down large, darker brown than Pintail's, pale centres, with long and conspicuous white tips.

Eggs about 2⅓ inches long, pale cream colour generally, with raised ridges visible on some portion of the shell. (I had observed two before in Scotland.)

C

C 1. Black Scoter.—Down medium size, darkish brown (darker than Pintail's, lighter than Wigeon's), centres pale but conspicuous.

Eggs over 2½ inches long, *pale* cream colour.

C 2. Velvet Scoter.—Down darker than either Pintail's or Wigeon's, centres less conspicuous than Black Scoter's.

Eggs large, about 3 inches long, *cream.*

C 3. Scaup.—Down large, dark brown with not very conspicuous pale centre, about the same as Velvet Scoter.

Eggs full 2½ inches long, olive-grey.

Down darker than Velvet Scoter's.

D

D 1. Long-tailed Duck.—Down small, darkish brown with pale centre.

Eggs fully 2 inches long, pale greenish-brown.

D 2. Shoveller.—Down small, dark brown, with pale centre, darker than Long-tailed Duck's.

Eggs about 2⅛ inches long, greenish-grey.

D 3. Teal.—Down small, very dark brown with pale centre.

Eggs about 1½ inches long, generally pale cream colour, sometimes pale greenish-grey.

This afternoon the steamer went up to Kuja, and we sent one of our men—Little Feodor—to buy the Swan's head at Mikitza (or Mokutza), with full instructions, and he seemed thoroughly to understand them all.

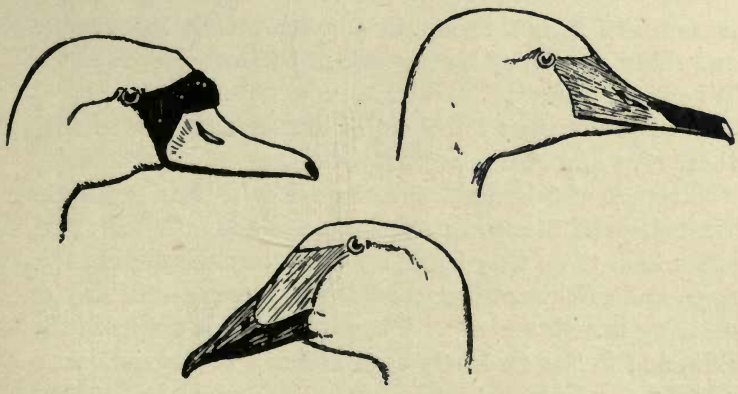
July 8.

Thursday, the 8th of July, was a red-letter day in our journal. Feodor returned triumphant, bearing the skin with the bill separate from the skin. The bills of the Swans procured here are usually cut off for the children to play with.

Feodor walked from Kuja to Mikitza, but on his arrival found that the peasant had gone to another place to fish. He bought the Swan's skin, however, for a rouble, and also secured the bill. It was, fortunately, the only Swan's skin in the house. The skin inside is still greasy, and has every appearance of having been quite lately prepared.

The eggs were taken and the bird trapped 12 versts beyond (*i.e.*, lower down the river than) Stanavoialachta, on an island called Pion-ní.

It is undoubtedly the first *identified* Bewick's Swan's egg we have seen. The others procured by us or examined by us are all the Whooper Swan, and our wrong identification



at Ust Zylma was owing to the difficulty of judging from a coloured copy taken from an uncoloured plate. In the coloured copy from Yarrell's wood-cut the yellow extends

considerably beyond (the *beginnings*) the openings of the nostrils. The term 'openings of the nostrils' is too vague, and hence, possibly, the mistake in colouring from a description and an uncoloured plate. The yellow comes altogether past the whole of the opening, but in the bills we have procured the yellow only comes to the upper (or ending) of the openings of the nostrils, or, in other words, there is a great deal more black upon our specimens than upon the coloured copy of Yarrell's plate.

The following are the measurements of the present undoubted specimen of Bewick's Swan:—

The bill of Bewick's Swan is considerably more than half an inch shorter than that of the Whooper Swan.

The measurements of our Bewick's Swan nearly agree with those given by Yarrell.

Our two identified eggs of Bewick's Swan measure—Length 3·9 inches, breadth 2·7 inches; and the largest egg we have of Swans obtained here measure 4·5 inches in length and close upon 3 inches (or 2·9 inches) in breadth. The smallest unidentified Swan's eggs we have measure 4·1 inches in length and 2·8 inches in breadth, and these eggs may belong either to Bewick's or to the Whooper Swan (?).

We consider that the chain of evidence connected with these eggs and bird is perfectly clear.

A couple of fishermen were occupied in their calling 12 versts beyond Stanavoialachta at an island called Pion-ní, and whilst there they found a Swan's nest containing two eggs, and afterwards succeeded in trapping the bird or securing it with a noose. There are no shot-marks in the skin, and it has evidently been stabbed in the neck with a knife.

In the division of the spoil the eggs fell to the one peasant and the skin to the other.

The one brought the eggs to Alexièvka, where he landed

whilst *en route* to Kuja, not having had much success at his fishing-grounds, leaving the other fisherman—his mate—fishing on an island opposite Stanavoialachta. This was on the 30th of June (*q.v.*).

We purchased the eggs, and offered to buy more if brought along with the birds, and it was then that he told us that his mate had the skin.

We found that our boatman—'Bolshai Feodor'—knew the man, and that we had ourselves seen him on the said island, where we found the two Shoveller's eggs on the 28th of June (*q.v.*).

On the 6th of July we went to Stanavoialachta and there learned that the other man had taken the Swan's skin to Mikitza, where he lives.

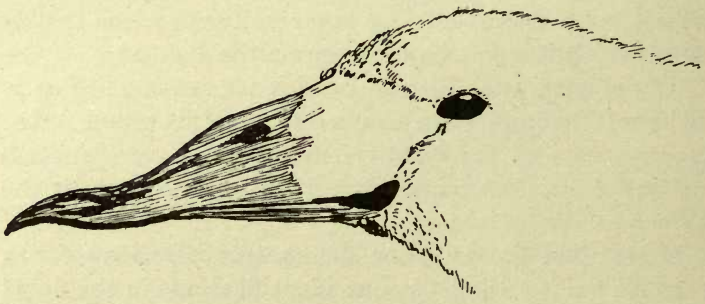
We return to Alexièvka and send Malenkai Feodor, our sharpest servant, to purchase the whole skin or bill. He goes by steamer to Kuja, and walks 5 versts to Mikitza, but finds that the peasant has again left to fish at another place. He buys the skin, however, from his wife, the only Swan's skin in the house, and also secures the bill, which had been cut off and given to the children to play with, which is a common custom on the Petchora.

The identification of true Bewick's Swan enabled us to add the Whooper Swan to our list of birds noted. The incorrectness of the head *coloured from Yarrell's woodcut and description* rendered it impossible to identify the Whooper.

How often do we poor field-naturalists long for a portable guide to assist in our identifications in the field! Will not some able naturalist at home *some day soon* lend us a helping hand and supply what ought long ago to have been within our reach? We should do better work if we had some little help *in the field*, and there would be less occasion to have everything sent to London for identification.

(Here I may take the opportunity of acknowledging the assistance afforded to us in a little pocket guide published by the British Association—'Notes and Queries on Anthropology'—during our observations of the Samoyèdes and their chooms and Reindeer. It tells the traveller what to observe and how to observe.)

Could ornithologists in the field procure some like assistance, it would be invaluable as regards the identification of closely-allied species. No knowledge on the collector's part should be taken for granted, nor on the part of those who are not alike gifted with as retentive memories as a Blythe, nor can serve in themselves as walking dictionaries of even their favourite science. What we want—we ourselves and field-naturalists generally—is a handy volume of clear but compressed descriptions of closely-allied species, *with exact coloured representations of those parts of the birds which will most clearly and distinctly lead to the identification in the field.*



For the above sketch of a Hooper in my journal I am indebted to Seebohm.

To-day a male and female House Sparrow made their appearance, and were seen busily feeding on the top of one of the log-huts as if just after migration. I fired at

the male amongst the timber baulks and it appeared to drop, but we could not find it.

In the evening I fired at a Swan—two barrels—but at long range, from Arendt's sloop.

Mosquitoes swarm over river and land. At night I am perfectly protected in my little log-hut by the mosquito curtain Howard Saunders kindly lent me. I feel very grateful to him for it. It ensures a good night's sleep, which is half the battle. Seebohm manages by having a raid with the flappers and sleeping with a veil on, and escapes also; but the perfect freedom of breathing under the larger curtain, for me, is a great blessing. Few get into my hut, as it is tight as a bottle, but if there were hundreds I don't believe one could touch me. I tuck it in all round in the morning, slip in quickly and quietly at night, and quickly tuck it in again at the front. Again, Saunders—best thanks!

July 9.

About twelve o'clock on Friday, the 9th of July, we went again across to the tundra, this time higher up the river, beyond Bougré. Seebohm and I again renewed our search for Grey Plovers, and, finding a pair, watched the female to her nest.

The four eggs were lighter-coloured and more minutely streaked than any we have got hitherto, and the nest was placed at the foot of a ridge close to damp ground—not on the top, as with the other nests.

We were a long time over this nest, quite an hour and a half, having, as it turned out afterwards, lain down at first within ten yards of the nest. The bird, after we shifted our position, went on very quickly, and I shot her as she again moved off.

Shortly afterwards we saw a bird fly off just where Simeon some time before had been searching for a nest. We at once lay down, and in ten or fifteen minutes she

went on to her nest—again containing four eggs. These eggs are much darker—olive almost, or olive-brown—and the nest was the only one we found placed in the midst of peat ground. It was near the top of a hummock, one of a ridge composed of dark peaty loam.

We have now three varieties of the Grey Plover's eggs. What we want most now is to procure the young in down.

It was trying work to-day, waiting to find these nests. The mosquitoes swarmed over our hats, veils, coats, and trousers, and as we lay looking along the ridges and across the hollows, they looked like a mist over the tundra, and the unceasing humming of the legions around us even dulled the sounds of the smaller bird-voices at a distance. They did get inside our veils; they did creep up our cavalry gauntlets and bit our wrists; they punished my ankles; they searched patiently and laboriously for openings in the sewing of our gloves.

If one attempted to smoke a papirosse outside one's veil, they impertinently settled on the lips, or audaciously perched on one's nose if it came in contact with the veil. The ears suffered, and they found out rents in one's clothes where rents are most likely to appear after clothes have had rough usage and hard deal boards in contact with them. They blinded us with their legions, deafened us with their hum, and almost beat us off with their force of character and determination.

Therefore, O brother 'Ibises' and naturalists, think how delicious is the flavour of an omelette of Grey Plover's eggs! But no omelettes were in store for us—only very tender chickens, not quite large enough to roast or grill.

One nest of eggs we succeeded in blowing; the other—the dark, handsome clutch—lies now swathed up in paper circles and bandages until the contents shall become *more tender still.*

At the first nest found to-day, the birds were almost

perfectly silent, and the female only twice or thrice uttered her single note just before going on the nest. These are the most silent birds we have met with, of the species.

A male to-day was heard to utter a triple-syllabled note like 'Peel-oo-wi' once or twice. We found just the two pairs, of which we took the eggs and a single male; and Piottuch, who was with us this trip, found another pair, but failed in finding the nest.

It is difficult at a first attempt, perhaps, to watch a Plover, Golden or Grey, to her nest, until one becomes acquainted with the different habits of the male and female, and can distinguish at once between them.

The female is usually, if not always, the first to return to the nest. She runs anxiously towards it, or in the direction of it, mounts on a hummock, usually utters her single 'pwew' at intervals, runs silently, head down, across the hollows, and stands again prominently on the hummocks, looking round or in the direction of danger. She passes and repasses the spot where the nest is, approaches and retreats from it, then perhaps flies past it to another post of outlook and again advances, and finally suddenly runs on to, and settles on, the nest. She utters only a single note at the nest.

The male arrives with, or more usually a little after, the female, is very silent, but when he does call, calls 'peelwhui'—the first syllable very short. Very rarely have we heard him give the single note, though he does do so occasionally.

In order to ascertain for certain that the male does utter the single note, I watched the bird on the 3rd (before Seebohm found the nest) at twenty paces' distance through my binocular. He cried usually the double note, but twice I distinctly saw him open his bill and say 'pwew.' (Perhaps he said '*phew*.' I was not more than

a hundred yards from the nest at this time. *I even thought I saw the skin of his nose curl up!*)

The male, further, moves about near the nest much less than the female does, and often stands on the same hummock for a quarter of an hour at a time, generally at a distance from the nest; and when he considers the female is safe from observation and finally settled on the nest, he sometimes takes wing and flies away.

The male appears darker to the eye, blacker-breasted, and whiter over the eye; but it does not do to trust to this alone, unless the two birds are standing close together for comparison. Some females are much darker than others, and nearly as dark as some males.

We saw to-day a large flock of Buffon's Skuas, probably the same which we saw at Bougré on the third current (*q.v.*). We cannot discover where these birds are breeding at present.

July 11.

Sunday, the 11th of July—we find it now rather difficult to supply Piottuch with work.

Seebohm, with the stick-gun, shot a number of *Budytes citreola* and small birds, and three Terék Sandpipers.

We have occasionally met with the latter species here, or heard its pretty musical trill—'*tr-r-r-r-r whui*,' or its alarm note '*kul-ik*,' whence its name—at the ponds and among the thickets on the islands, but they are much scarcer here than higher up the river.

The Common Sandpiper we have never met with here.

A nest of Shovellers' eggs was brought in to-day with the down. They proved to be quite fresh.

July 12.

On Monday, the 12th of July, we had rain in the morning, and east wind and rain about noon, when we

landed on the tundra. We had another successful day's search for Grey Plovers.

At the first nest we found, the male uttered nothing but the single note, and the female was very silent. I watched them both as they stood on the same range of hummocks at twenty paces' distance, and saw the male open his bill as he cried. When we first saw them, quite two hundred yards off, one of them was already shamming lameness and broken wing. The male appeared to be much more anxious than the female, and 'shammed' a great deal more. When not more than thirty yards from my post of observation, he crept amongst the white grass with which the flat bogs are sometimes covered, and lay down, wings stretched out on the ground, motionless, or nearly so, for fully half a minute. After finding the nest, which we did by marking the spots whence the birds rose, I shot both ♂ and ♀. The nest contained the full complement of eggs, all chipped, and three having small holes near the large ends. The bird of one we extracted, and wrapped him and the other three eggs in cotton wool. He arrived at Alexièvka alive but 'poorly.'

Another pair we watched unsuccessfully for a long time, and of this pair the female appeared to be the more anxious parent. Failing to mark the exact position of the nest, we walked to where the female appeared oftenest and displayed most *finesse*. 'Malenkai' Feodor found the fragment of an egg, showing that the young had run.

Two other birds, high in air, flew in the peculiar manner I have before described, but not quite as Tern-like, and with shorter, quicker beats of the wings, the wing *not nearly meeting* over the back, as before noticed; and they uttered the treble note.

Simeon came forward with three more Grey Plover's

eggs and the two birds which he had shot at the nest. He had broken the fourth egg, and told us that there was a very large live bird in it.

He also brought a single Richardson's (Arctic) Skua's egg with the bird.

Later in the day Seebohm and I watched another pair of Grey Plovers, but again the female was not apparently very anxious to go on to the nest, and the male showed more *finesse* and anxiety. We again failed in marking the female to the nest, and went forward to the places where we had respectively seen her twice disappear.

As it afterwards turned out, I went about twenty yards to the right, and Seebohm about the same distance to the left of the nest. Both birds flew round us in circles. I concluded they had young, and Seebohm that they had eggs. We had despaired of finding them, eggs or young, and were walking away, when we stumbled upon the nest with three eggs, and a young bird, apparently only very lately hatched, crouching within two feet of the nest. On the ground where he was lying, his *bright yellow* colour was conspicuous. He was still weak and not able to move about easily. Seebohm shot the ♂ and wounded the ♀.

The young closely resembles the young of the Golden Plover, but we cannot institute a correct comparison at present without specimens of the latter to lay beside it. It appears to me, however, to be quite as yellow as the young of the Golden Plover, perhaps yellower about the head, but also has the darker parts of the upper plumage larger or more conspicuous.*

To-day we found great areas of tundra quite unoccupied by the species. They appear to be thinly scattered over the tundra, preferring the lower-lying, damper portions,

* This decision was reversed, however, when an actual comparison was instituted at home.—H. B.

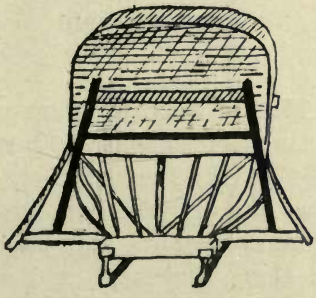
where the hummocks lie in ridges and not broadcast, and where the flat peaty bogs are most abundant.

We believe they choose these situations partly, if not wholly, on account of the presence of a larger quantity of yellow-green moss, which must afford excellent concealment for the young, to which it so closely approximates in colour.

We have observed before, in Scotland, how difficult it is to detect young Golden Plovers (as compared with many other young of waders we have taken), as they lie flat upon the spongy, yellow-green patches of moss, head down, and legs drawn in under the body.

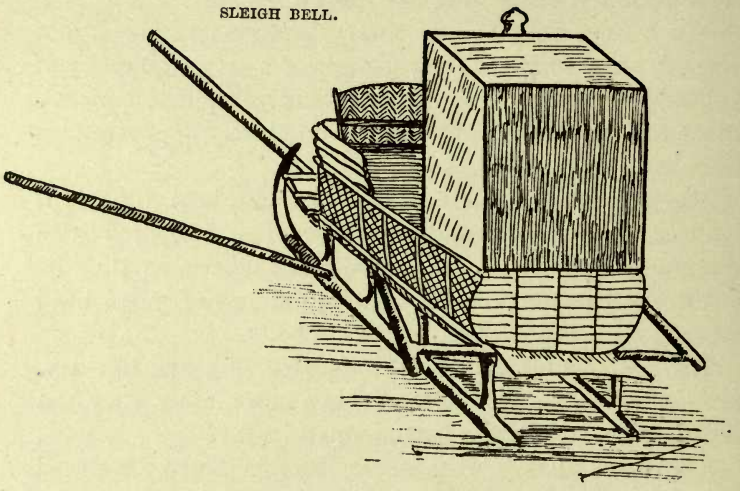
We are fortunate in securing these specimens to-day. It is possible we may not get any more, after they can move about and secure better concealment.

The nearly-hatched eggs we have laid upon warmed cotton wool along with the young, and covered them all over carefully and lightly with Goose's down, and we hope for the best, and that we shall be as successful as Mr. Wolley was with his young Eaglet (*Ootheca Wolleyana*).



OUR SLEIGH (*v. next page*).

SLEIGH BELL.



PIOTTUCH'S PAVOSHKA MOUNTED ON SLEIGH-RUNNERS.

PART IV

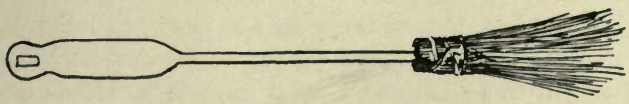
INVESTIGATIONS AT THE MOUTH OF THE PETCHORA, AND RETURN HOME

July 13.

On Tuesday, the 13th of July, we were wakened by M. Arendt about 6 a.m., and about 8.30 we left in the steamer for the Golaievski Banks, where beacons have to be erected before the arrival of the ships.

After passing Stanavoialachta and Cape Sokolka we steamed N. by E. along the coast, and on leaving the coast followed the channel marked out by a line of besoms, which are tied upon poles which are anchored by heavy stones attached to one end. These have to be laid down every year, as the ice, of course, carries them away.

At the bar we found the cutter, and we took her in tow alongside. We then proceeded on an easterly course



until Cape Constantinovka was passed, at which there is a beacon, after which our course was changed almost due north, by the chart 2° E. of N.

The coast in view on the east of the Boluanski Bucht is low and sandy, with flat tundra extending far inland; and in the far distance—S.E. by S. from Cape Constantinovka—the Pitkoff mountains appear, which, according to the chart, are 563 English feet in height. Many little rivers run to the sea from the Pitkoff mountains through what we are informed by Engel is a vast swamp. The mountains are just ten English miles from the sea at the nearest point, and the range is about sixteen miles in length, culminating towards the eastern extremity in the highest point.

As we crossed the bar where the cutter was lying, soundings were constantly taken with the lead. The water shallowed to the bar very gradually on the river-side, and deepened a little more rapidly towards the sea. The soundings were cried out from 25 feet to 12 feet on the bar and then 13, 13½, 14, 13, 15, 15½ to 25 feet beyond.

Outside the bar and at the mouth of the Boluanski Bucht numbers of Belugas, or White Whales, were seen at a distance, one coming pretty close to the steamer. They rolled along much in the same way as porpoises do, and seemed to keep pretty well together, though there were some in view in all directions round the vessel.

Lying on the shore is the wreck of a large trading

vessel, the *Alexie*. It was run upon a sand-bank under full sail about ten years ago by a careless or interested captain.

A 'choom' of the Samoyèdes was seen, and here and there upon the edge of the tundra white crosses erected by the Russian fishermen who resort to these bleak shores in summer to fish for Beluga and Salmon. The great Salmon-fishing season in the Boluanski Bucht does not, however, commence till the first week in August.

After turning to the northward we had plenty of opportunities of witnessing some of the difficulties connected with the navigation of the Great Shallow Sea, inside the promontory of Russki Zavarót and the Golaievski Banks. The day was lovely, the water smooth as a mirror, and a slight haze somewhat obscured the horizon-line. Refraction was at work, too, making objects difficult to recognise, or to distinguish dark shadows on the water from the low level sand-banks we were in search of.

Before reaching the far-out Golaievski chain of islands and sand-banks, the true course for vessels runs between two submerged sand-banks or shoals, one the Alexander Bank on the west or left of the channel, and the other the William Bank on the east or right of the channel.

Our course was taken somewhat east of that marked on the chart—by Arendt's orders—and the lead was in constant requisition the whole afternoon.

The compass on board was next to useless, owing to the local attraction present in an iron ship, and from not being properly protected from it. How the servants of the Company can put up with such an article we could not imagine.

We got upon shallow water, and the difficulty was to know whether we were upon the William or upon the Alexander Bank. No one on board appeared to have the faintest idea for some time. It transpired at last, how-

ever, that we were over the William Bank, and our course had been taken too far east.

The lead was kept going all the evening; the greatest depth was given at 29 English feet, and sometimes we were over the bottom in only 13 feet of water. The steamer drew 6 feet 6 inches of water. The two captains (! !) of the steamer and the captain of the cutter were either aloft or constantly on the outlook from the bridge.

About 10 p.m. we sighted the low-level sand-bank No. 3 of the Golaievski chain (counting that nearest to Russki Zavarót, as on the chart, No. 1).

Until we landed all failed to recognise it, and could not decide whether it was No. 3 or No. 4. The old beacon was carried away by the ice, and certainly there appeared to be little upon it by which it *could* be recognised.

As we approached in the boat we secured a fine specimen of the Glaucous Gull, and on the island found three young and shot the parents as they swooped at us near the nest.

The sand-bank is entirely bare of any kind of vegetation, and is almost perfectly level. The tide here only rises, Captain Engel tells us, to the height of 6 inches—at the bar it rises 2 feet.

The nest of the Glaucous Gulls was a heap of sand hollowed slightly at the apex, and a few irregularly-disposed tufts of seaweed were laid in it as a rude lining. Seaweed and driftwood, small and large, are the only materials on the bank the birds could choose from.

Afterwards Piottuch found another lot of three young, and shot one of the parents.

A Seal was found stranded with a huge bullet-hole in its side, and in the last stage, apparently, of decomposition. Piottuch did not seem to think that a skeleton could be made of it!

A flock of Sandpipers attracted our attention, and we were long in pursuit of them, as they were exceptionally wary and wild (very different from the tame flocks at Grangemouth, on the Firth of Forth, in the autumn). At first we took them for Phalaropes, as the cry closely resembled the *tjick tjick, tjick tjick* of that bird. Then later, refraction assisting in the misidentification, I cried out, 'By Jove, I believe they *are* Knots!' Immediately after they rose and flew straight to us, but the low light from the sun, glancing through a thick mist and upon the pools of water left by the tide, made it difficult to shoot, much more to identify a small wader by its flight. The shrill trill of a Dunlin amongst the flock again misled us. I fired both barrels, and succeeded in killing one bird; it was a Sanderling. Ah hah! we are surely now on the track of the migration.

We shot two more Sanderlings, of which we saw and identified quite a number after the sun got higher. Dunlins, too, were common, in flocks, coming to feed doubtless at the time of low tide, from the tundra or other islands where they breed. It is perhaps possible, however, that these flocks are young birds of the year not breeding.

July 14.

On Wednesday, the 14th of July, the steamer—*sans* compass—lay-to in the middle of mist about 4 a.m. A beacon had been erected on No. 4, and a S.W. course had been taken in search of No. 3. A strong tide ebbing through the channel made the steamer set down to the northward, and baffled the captain and Arendt to fix her locality; so the anchor was dropped in deep water —18 feet—till the sun should dispel the mist. When it did rise we found No. 3 about a verst on our starboard bow, and after running in a little closer we landed in the boat.

No. 3 is a large dry bank, low and level, but at the far end from where we landed it is said by Arendt to be covered with long grass; but this is denied by Captain Engel. We never know what to make of information so received. Engel and Arendt do not pull well together, and scarcely ever tell us the same about anything connected with the coast or islands.

Most unluckily for us, the old beacon had not been carried away here, and an hour's work with ropes and pulleys was enough to haul it bodily into its former position, it having been simply upset.

When finished all hands were hailed to come on board, and we in consequence had to be contented with a weary, fruitless tramp over the level, profitless, bare sand, and had no time to search the far end, which must be eight or ten versts distant, and was out of sight of the vessel.

We found two empty nests of Glaucous Gulls, shot another pair of Sanderlings and a number of Dunlins.

The latter were in immense flocks, and appeared to arrive at the island over the water from the southward.

Thousands upon thousands of Ducks were covering the water off the tail and at the back of the bank. We believe they were principally Black Scoter, which, along with the Long-tailed Duck, were the only species we identified. But with refraction busily at work, as Engel remarked, 'It is not easy to tell an ostrov from an ootka' (an island from a Duck).

Recalled to the ship, we returned sadly and reluctantly. No. 2 island is also covered with grass—certain—but we have now, alas! no chance of visiting it, this year at all events.

It is more than tantalising to feel that we were possibly so near to the breeding-haunts of the birds we are in most anxious search for, and to be obliged to turn and

leave them unexplored. Oh for a clever, smart sailing-craft, or a steam launch—to be so near perhaps, and yet as hopelessly distant as ever!

Nay; but at least we have a clue, which is half the battle, though the other half is still no easy one to fight without more modern and efficient munitions than a *clumsy, hideous lump of a Petchora old wives' washing-tub.* (Feelings so deep must be expressed.)

Obliged to take advantage of the weather—the beacons must be erected immediately—the steamer hurriedly moved off again to No. 4, got into the proper channel, and steamed south for Constantinovka Cape. About 4 p.m. she came to anchor opposite Dvoinik Cape (the Twin Capes), on the shore east of the Boluanski Bucht.

Not expecting much from the appearance of the coast, we landed with the men who were to erect a beacon in place of one which last year had been torn down for firewood by the Samoyèdes.

I felt unwell and very sick for a quarter of an hour, and generally unhinged by irregular meals, want of sleep, and badly-cooked food, and I only penetrated about a verst into the tundra. The long level tundra before described stretched away far, far inland, and the Pytkoff mountains looked hazy in the distance.

Grey Plovers were not uncommon, and the nature of the ground seemed to be admirably adapted for their breeding habits. I saw both Richardson's (Arctic) and Buffon's Skuas, and picked up a quill from the wing of a Snowy Owl. I watched a pair of Grey Plovers, but the heat and mosquitoes completely upset me, and I returned to the steamer as the last man descended from the beacon.

Seebohm had grand success, returning shortly after me, and with a triumphant thump laid on the table, first a Grey Plover, then a Snow Bunting, the first since Ust Zylma, and then a Curlew Sandpiper; lastly,

and most triumphantly—hurrah!—five Little Stints, long looked for, found at last. But fancy Seebohm's disappointment when he too saw the last man descend from the beacon just as he got into the middle of the *raræ aves* and had to return.

Ah, Brother 'Ibises,' would that we had wings! I fear we should, though, change our natures and become great hungry birds of prey, and a terror to all other fowls of the air.

The Stints were in flocks haunting a black, stinking salt-marsh, an arm of the sea; so, too, were the Curlew Sandpipers. Beyond stretched a great sandy tract covered with esparto-like (?) grass, and along the seashore a bank of the same kind of ground stretches, we believe, for miles in the direction of Cape Constantinovka.

It is perhaps somewhat uncertain what these flocks of Stints are—whether they are breeding birds feeding at a distance from their breeding quarters, or flocks of young birds not yet breeding. These sandy tracts look suggestive, but Seebohm found nothing breeding on them but Ringed Plovers; but of course he had only a hurried half-hour or so to search, and saw nothing of the great tract beyond the inlet.* †

* The Little Stint has the outer tail feathers dusky; in Temminck's Stint they are white.

† A Stint, *Tringa subminuta* of Middendorff, is mentioned in Jerdon's 'Birds of India,' vol. iii. p. 691, as an inhabitant of China, North-East India, and Japan; and Jerdon says it very possibly is confounded with the common species. It is said to differ in having longer toes. I have one of these, but named by the synonym *damacensis*, Horsf (see Gray's 'Hand List,' 10,313). Swinhoe mentions it (*T. damacensis*) as a species ('Ibis,' 1863, p. 123), but does not compare it with *T. minuta*.

Other references: In the 'Ibis,' 1873, described by Lord Walden, quoting Pallas's original description, p. 317, of *T. salinæ*.

In the 'Ibis,' 1872, p. 63, a note on *T. minuta* breeding in Waigats.

T. minuta, a note from Middendorff's S.R. in Dresser, 'Birds of Europe,' temporary vol. i. Eggs obtained.

The vast swamp talked of by Engel may or may not exist, but if it does, is it not likely ground for the Curlew Sandpiper to breed in—a Red-breasted Dunlin, in fact?

The distant Pytkoff mountains, too, are suggestive, and, we fear, unreachable at present.

Cape Dvoinik is more than 100 versts north-east of Stanavoialachta, across the stormy entrance of the Boluanski Gulf, and it would be folly to cross, or attempt to cross, this wide waste of water in our *washing-tub!*

We have offered to hire the steamer, paying expenses of fuel and men, and hinted how invaluable to us would be the acquisition of the eggs of these birds, and to naturalists the fact of their discovery; but one might as well preach to a beacon on Cape Dvoinik. The steamer is needed elsewhere. The rafts descending may stick on shoals on the river, and need her assistance, and—tut! what are rafts of timber compared to Little Stints' eggs?—but Arendt would not see it, and we were disconsolate.

Tired, and perhaps not looking at things in their best light, we reached Alexièvka early on Thursday morning, nine hours from Cape Dvoinik. We shall plan and scheme yet to reach that Stint-ground again before we leave.

Five of our Plover eggs are hatched out, and the birds strong and healthy. Our troubles are not unmixed with triumphs.

July 15.

Thursday, the 15th of July, back again at Alexièvka, amidst swarms of mosquitoes.

The windows are all covered over with our own blood from scrunched and defunct mosquitoes. They are not large, but are very venomous.

We patched up our broken Grey Plovers' eggs from

which the young had made their exeunt, and successfully finished the blowing of four 'Stinkers' (Swans' eggs left to soften !).

We laid together our Little Stints and two Temminck's Stints in the flesh.

The Little Stint is a little Dunlin all over save in the black breast of the latter. The Temminck's Stint is green-grey on the back in general appearance, and the Little Stint rich, reddish-brown. The Temminck's Stint closely resembles a Common Sandpiper in the colour of the back, and still more the Terék Sandpiper, while the Little Stint, as already remarked, is a little Dunlin as regards the coloration of the upper parts.

Little Stint.	*Temminck's Stint.*
Back, rich reddish-brown.	Greenish-grey.
Legs, feet, black.	Dark brown.
Bill, black.	Brown.
Tarsus, ·85	·75
Wing from carpal joint, 3·6	3·05
Extent of wings, 11·8	11·9

The measurements are taken from one Little Stint and two Temminck's Stints only.

With careful comparison we fail to discover any distinctive difference in the coloration of the quills of the first primaries of the two species; certainly insufficient for any useful comparison.

The five Little Stints on dissection proved to be all males, some with the testes very slightly developed, others with them considerably more so. My impression is that these males are done breeding, and flock together to feed during the time the females are sitting, returning to take share in feeding and tending the young when they are hatched out, and giving more attention to parental duties; or it may be that they are birds of last year not

yet breeding, but we have never met with flocks of Temminck's Stints here whilst others of the species were breeding; but at Archangel we met with small flocks of Temminck's Stints feeding on neighbouring islands when there were numbers breeding, and we shot both ♂ and ♀ at the nests, both of which sexes had been incubating. We find here also immense flocks of Dunlins feeding at low tide, whilst any quantity are breeding on the tundra, and perhaps also on the other islands which we could not visit.

I believe that where birds are obliged to feed at stated times, as at *low tides*, they are more likely to feed together in flocks than those species which can procure their food at all times. The Little Stint, as far as we know, is an almost purely maritime species, and Temminck's Stint an inland and riverine species, except when only a coast locality is available, as in Northern Norway. Temminck's Stint here migrates down the Petchora, and the Little Stint along the coast.

On dissection the Sanderlings proved to be two ♀ and three ♂, the former with very small eggs in the ovaries, like birds done breeding for the season, or not yet mature, and the latter with testes not greatly developed. The moult had also commenced.

The Curlew Sandpiper is a female, with small eggs—size of pin-heads.

As already mentioned, the migration doubtless passes along the north coast of Europe, the Kañin and Timanski coast, and the promontory of Russki Zavarót, and the Golaievski sand-banks and islands, and probably strikes the coast of the Great Meleski Tundra considerably east of where we found the Stints and Curlew Sandpipers. A portion then passes on to Varandai and eastwards, and another smaller portion goes back along the coast to the breeding haunts, where we found them, and

possibly as far as the sandier parts of the Boluanski coast.

If any remain to breed at the grass-covered islands of the Golaievski Banks, it seems probable that we should have found them feeding on the low sand-banks at low tide.

It is possible also that many may remain at breeding haunts along the Timanski coast between Svetinoss and Russki Zavarót, where there is a great stretch of sand-hills covered with grass, but we are at present inclined to think that the great bulk passes on as above suggested.

We have still hopes of again reaching Dvoinik Capes with the steamer. Indeed, our whole thoughts and consultations have been directed to that end since we met with the birds. We hope yet that M. Arendt will come to the rescue, but there are still difficulties in the way.

No rafts of timber have yet reached Alexièvka, and it is feared that they must have caught on a sand-bank up the river, and may require the steamer's assistance to get off. Arendt says, too, that he will be surprised if no vessels arrive in ten days from the sea.

The fact is also; there are plottings and counter-plottings behind the scenes, and the Company's affairs are in a rickety condition. Arendt is most unpopular, and being young, and this his first year as manager, and there being no reliable man under him, he fully feels the difficulties of his position. His riding with a high hand is not relished, and while there are plottings on his part against subordinates, there are also plottings against him. We have been let behind the green curtain, and seen a good deal of the machinery.

July 17.

On Saturday, the 17th of July, new light entirely had been thrown on the probable course of the migration

of the Little Stint, Curlew Sandpiper, Sanderling, and Grey Plover since I wrote yesterday, for with Piottuch's assistance we have consulted a publication in Russian, viz., 'Materials for Making a Biography of the Birds of the Volga,' being part i., chapters 2, 3, and 4 of the 'Descriptive Catalogue of the High School of the Imperial University of Kasán,' vol. i., published at Kasán in 1871.*

Of the Little Stint and Temminck's Stint, the editors say that they appear near Kasán, upon ground covered with little lakes and black, marshy ground, with tussocks of grass, on their spring migration, end of April to beginning of May (Old Style); or from beginning to middle of May (New Style); that they are not seen thereafter until the beginning of August (Old Style, middle of August, New Style), when they return on their autumn migration. They are thus resident at their breeding-grounds from the end of May to the middle of August (New Style) (*i.e.*, absent from Kasán and resident at their breeding-grounds). When seen in spring they are in flocks, and are observed in autumn at Simbirsk, lower down the Volga than Kasán. Their course has been traced also from Simbirsk and Kasán, and on the Kama River as far as Ufa at spring migration.

The course of migration will then, in all probability, cross the Ural and join the Ob, and descend that river to the sea, spreading out on both sides, and some of the Little Stints straggling back as far as the locality where we found them to the westward and further, specimens having been obtained at Archangel in 1872 by Alston and myself, and on the island of Tamsö on the Porsanger Fjord, in the north of Norway, by Collett.†

* Full title to be found at p. 49 of this journal (MS.).

† I do not refer here to more recent discoveries, since the date of these journals, well known now to ornithologists—as, for instance, their abundance on the Island of Kolguev,

Temminck's Stint is more western in its distribution, coming down the Petchora, and even breeding commonly in the north of Norway.

Of the Sanderling, it is recorded that in spring it has been seen on the Sarpa, and at Kasán in the autumn.

Of the Curlew Sandpiper, it is recorded that it is seen both on the Volga and Kama in both migrations.

Of the Grey Plover, that it is seen in May and September on both migrations, in small flocks, but not every year.

And of the Yellow-headed Wagtail, that it arrives when the other Wagtails are with young, about the middle of April, and that a few *pairs* are seen at the beginning of June (New Style).

This completely upsets the former generally-received ideas regarding the spring migration of some of our waders. Before consulting the above-mentioned work Seebohm had suggested to me that possibly this generally-received notion was an erroneous one.

The line of country taken by these migratory birds is, we believe, also comparatively unworked ground, and the able publication we have so far consulted is also comparatively unknown to naturalists.

It is further worthy of note that the Knot is not mentioned as occurring at all at Kasán in this work.

July 18.

On Sunday, the 18th of July, we accompanied the steamer to Kuja to purchase provisions. On the way, and close to Kuja, we met the first of the rafts, and Arendt received a packet of letters. Ours were enclosed —one from home, one from Mr. Rae, and one from E. R. Alston for me. All our news was good. Alston wrote that he saw Feilden off at Portsmouth, and at the 'Ibis' dinner made a speech, and the health of absent 'Ibises' was drunk, coupled with Feilden's name.

Early this morning we landed at Kuja, and were introduced to the wealthy merchants who bring down their cayucks full of the necessaries of life all the way from Tcherdin, near Perm, on the Volga, and realise, we are told, great profits. At the end of the summer they sell their remaining stock, and even some of the cayucks, and return with one kept for the purpose.

These cayucks are huge Noah's-Ark-like structures, quite different in shape from the grain and other praahms of the Dvina, which are shaped like butter-boats. They are like the boats, shallop-shaped with low-water lines, high at bow and stern, and are roofed in throughout nearly their whole length, and each has a huge mast nearly amidships. A trap-door is opened in the side of the roof, and on descending we found a spacious store with a counter in front.

Our purchases consisted of 23¼ lbs. of sugar at 30 kopeks per. lb. = 7·57 roubles; tea, at 1·70 kopeks per lb. = 5·10 roubles; matches, 20 kopeks; and soap at 15 kopeks per lb. = 60 kopeks. Besides these we purchased dried apricots and plums, and Seebohm invested in a knife which he believed to be made from steel from his own works in Sheffield, and a slab of the black slate-like stone (dominik) of which table-tops are made, and which comes from Oochta, on the Ussa, where Sidóroff's naphtha-springs are. One cayuck was lying at Kuja, and three others at Mikitza. To reach the latter place we were driven in the rough cart of the country, yclept a 'rospooski,' and the discomfort of these five versts was in consequence considerable.

On the way we picked up two young Ring Dotterels and a young Arctic Tern.

Seebohm, Arendt, and M. Alin—one of the merchants—and a young fellow who is reported as being very wealthy, drove in one 'rospooski,' and Engel, Piottuch, and my-

self in another. We remained some time in the cayucks, were liberally treated to wines and liqueurs, nuts and bonbons, etc., and then returned to Kuja.

On the way back, a long chase after a number of young Ducks resulted in our securing the mother and five young, which, however, had all to be shot. They were Long-tailed Ducks.

At Kuja two small Swan's eggs were brought to us, and we learnt that the bird was to be found in a valley seven versts off. We brought the eggs, and left instructions to have the bird at Kuja by the next time the steamer comes from Alexièvka.

At Kuja we saw both House and Tree Sparrows in some numbers, and saw on the riverside a flock of Hooded Crows and several specimens of the Common Gull.

The latter bird appears to haunt only the banks of the river, breeding, as far as we know, only in single pairs here and there, and perhaps Kuja is its farthest towards the north. The flock we saw at Ust Zylma in spring probably represented the greater part of the numbers of the Common Gull which breed upon the Petchora below that place.

The country between Kuja and Mikitza is a great grassy plain, upon which numbers of cattle and horses were feeding. The grass is short, but green and juicy. A thick growth of willows covers a great part of it, and innumerable pools and lakes of water lie in the hollows.

Stints, Terns, Ring Dotterels, and Yellow-headed Wagtails were abundant, and the dark-coloured Sand Martins were seen skimming along the sandy coast.

During the day it was very warm, but at night a sudden change took place, and the wind blew strong and cold from the northward. In consequence, poor Piottuch during the night suffered severely from neuralgia and got not a wink of sleep.

July 19.

On the morning of Monday, the 19th of July, our first news was that four vessels from the sea had arrived at the bar, fishermen having brought the news to Alexièvka.

There are some hopes of our getting to Dvoinik to-morrow evening. We had now to get all things packed and ready for a start on our return in a week or ten days. The news reached us on board the steamer as we lay-to close to the rafts, until Arendt should go on board one of them.

Nearing Alexièvka, binoculars were in requisition, and as we discovered a large schooner lying at anchor in the roads opposite Alexièvka, many were the conjectures as to her nationality. But as soon as we could discern her colours dreams of English beer and 'aiblin's whiskey' floated before our mind's eye. '*She* was an Englishman,' as Paddy would say.

We saw the captain—Captain Taylor, of the schooner *Triad*—later, and he told us that he had come direct from Iceland, where he had taken a cargo of coals from Bo'ness, ten miles from our house at Dunipace. He and his mate are Scotchmen.

We intend taking passage with him to Copenhagen, where he can land us on his way to Cronstadt.

The gale continued, and would delay the arrival of the rafts and the lading of the ship, but he hoped to get off in six days after the rafts arrive. This wind will also delay our visit to Dvoinik, as the steamer must first go up to tug down the rafts—20 versts up the river—but we shall have time after that, as the steamer must take the pilot (who brought up Captain Taylor's ship) again to the cutter.

July 20.

On Tuesday, the 20th of July, we went across to Vassilkova with some of the men, in hopes of getting

some young birds in down, but the wind was still stormy and cold, and we got little—four young Pintails large enough to eat, and the old bird, a young Yellow-headed Wagtail, young Red-throated Pipit, and young Dunlin nearly full-fledged.

We saw several Common Gulls and one immature *Larus cachinnans*,* besides adults. This young gull appeared to be much browner, or yellower brown, than those of the Common Herring Gull in the same stage of plumage.

The Glaucous Gulls we shot the other day had the legs and feet pale-flesh colour, with a tinge of pink, the beak and round the eye straw-yellow, the point of the bill pale horn colour, and a vermilion spot on the angle of the lower mandible, the pupils blue-black, the irides pale straw-yellow, the inside of the mouth pale-flesh colour. The young, in down, appear to be less spotted than those of the Common Herring or Lesser Blackbacked Gulls or of the Greater Blackbacked Gull.

This evening the gale from the northward still continued.

July 22.

On Thursday, the 22nd of July, at 2.30 p.m. we were on board the steamer outside the bar, *en voyage* for Dvoinik. A large vessel from the sea is in sight, and a pilot-boat from the cutter has passed. We think she is the other English vessel.

To-day Engel's hospitality shone forth in the absence of Arendt, and our dinner this day was a delightful contrast to the absence of all food on our last trip to Kuja, and the only really hearty good meal we have had since leaving Ust Zylma. Thanks, good Captain, we are indeed grateful.

About 3 p.m. we went on board the English brig *Ino*, of Newhaven, along with Captain Engel. The captain of

* See Appendix under *L. affinis*. This is really *L. affinis Reinhardt*.

the *Ino* complained of being detained by much ice and of being unable to find the channel between islands Nos. 3 and 4. He beat about for three or four days, and had to come round by the East Passage between the islands and Varandai. Captain Taylor, of the *Triad*, saw no ice.

The Captain of the *Ino* produced a translation of directions professing to be from the original signed by Mattieson, in which it is stated that the pilot-cutter will cruise about between the bar and Dvoinik Cape, *which fact seems to be quite unknown to Arendt or to Engel!*

The Captain, who speaks a curious 'hoigh' English, called the 'whole concern' a 'bloody foine swindle.' There is no date upon the paper with the translation. *Cette très pauvre Compagnie*, as Piottuch calls it, certainly seems in a rickety condition.

About 4 p.m. we landed near Cape Dvoinik, close to the wreck of a sloop, which lies on an even keel high and dry on the beach, and which we shall make our head-quarters for the next week. The steamer is to return for us on Tuesday, Wednesday, or Thursday next week.

After getting all our baggage carried on board, we filled our pockets with cartridges and started for the brackish arm of the sea, where Seebohm shot the Stints and Curlew Sandpiper on the 14th instant.

Along the coast near this inlet, and between it and the sea, stretches a low range of sand-hills covered with what Seebohm recognises as Esparto grass—a tapering flat grass. This does not grow here thickly enough, however, to prevent the sand from drifting.

The only birds I saw frequenting these sand-hills to-day were Ring Dotterels, but Seebohm, on the 14th, shot a young Shore Lark and Red-throated Pipit.

A few Terns were hovering over the water of a shallow lake close to them, and several Buffon's Skuas flew over, one of which I shot. Piottuch also shot one Temminck's Stint.

Between these sand-hills and the inlet is a level grassy expanse of ground studded over with small pools of brackish water and intersected by narrow winding lanes of the same, from which an offensive odour was wafted to our nostrils by the still strong breeze. At the bottom of these stagnant pools is a deep layer of black tenacious mud, and on most of them there was a great quantity of a dark green water-plant, of which we intend to gather specimens.

Upon one of these shallow ponds, large enough to be called a lake, and the largest of them all, I shot four young Pintails.

A few flocks of Dunlins were careering over the meadows and alighting on the edges of the pools, and we several times saw Stints dashing overhead in a flock. These were very wild, and scarcely ever offered a fair shot. Seebohm got one shot, and after he fired the flock wheeled once back, made a small circle in the air over the place as if looking for a lost companion, and then dashed away on their former course.

A pair of Black-throated Divers were swimming about on the same sheet of water where I shot the young Pintails.

At the far or east side of the inlet along the mark of a higher level of the water we found two or three deep circular holes, one of which was sparingly lined with Long-tailed Duck's down. The others had also every appearance of having been shortly before used as nests.

The inlet in general appearance, as far as we have yet seen, may be said to resemble in shape a chemist's retort. The neck, or narrow entrance, is at the northern side, and the wider part sweeps round forming a peninsula—between it and the open sea—of the sand-hills, and the green meadow with its many pools and lanes of water.

On the seaward side of the peninsula I picked up the

skull of a large animal and kept the teeth of the upper jaw for future identification.

Having searched this peninsula without success, we returned to the south-west shore. Piottuch and Simeon were sitting down on the edge of the tundra, which rises with a gradual slope to a height of only a few feet above the level of the water of the inlet. Seebohm had gone on along the water edge towards the north, and I was a considerable way behind, having diverged to look along the coast-line with my glass.

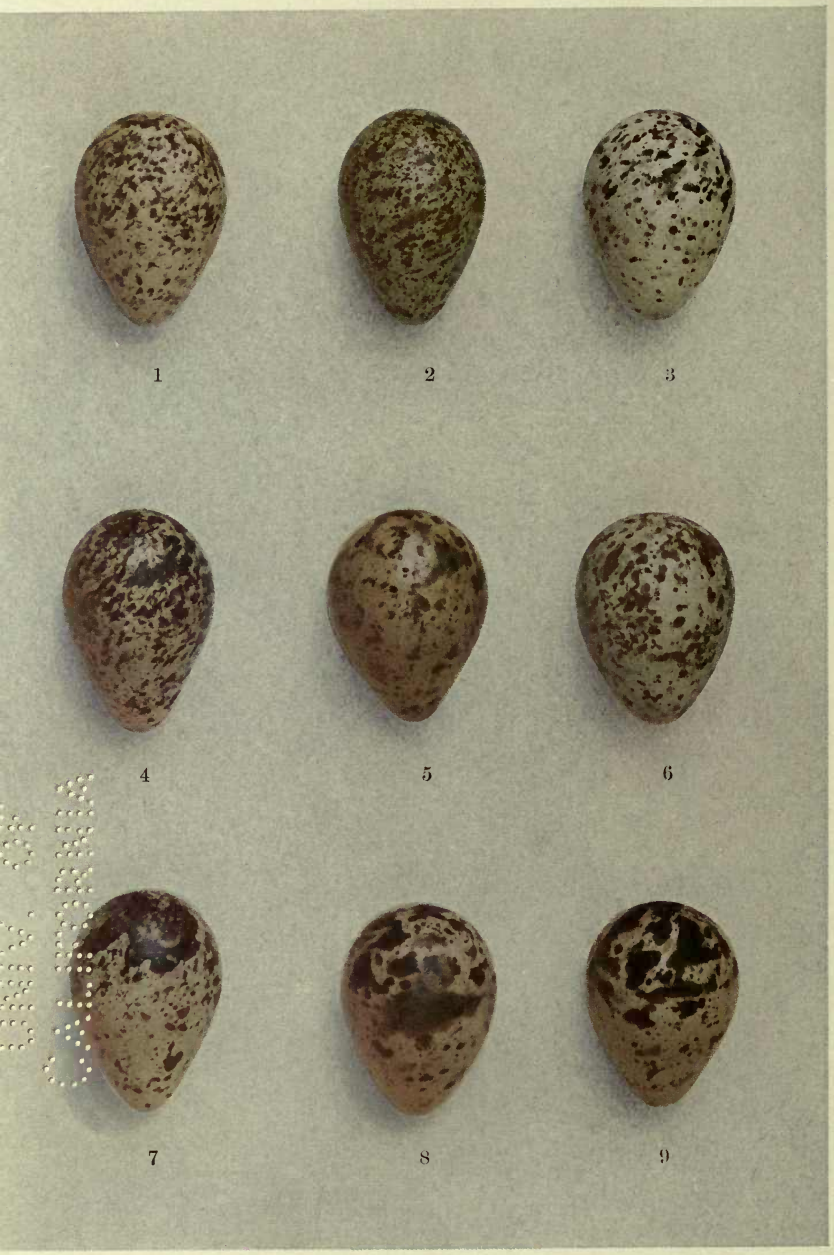
Piottuch, as I approached, shouted to me to come to him, and as I came nearer I saw a small bird flying in circles round him and Simeon, and alighting here and there close to them.

I ran forward and Piottuch held out two young Little Stints, not more than a day, or at most two days out of the shell. I sat down, and ere many seconds elapsed the old bird alighted within a yard or two of our feet, uttering a low, very small, anxious sibylline whistle. My gun lay on the ground beside me within reach of my hand, and I laid down one of the young about six inches beyond it. Almost immediately the old bird advanced close up to it and endeavoured to lead it away. Piottuch then held out the other in his left hand, and it uttered a scarcely audible cheep.

The old bird fearlessly advanced to within one foot (twelve inches) of his hand, and he nearly caught it.

I then shouted and yelled and waved my hat to Seebohm to come, being at the same time prepared to shoot the bird if it flew away to any distance. But no; it simply flew about ten or fifteen yards and then began to sham lameness, tumbling about amongst the little hummocks and hollows and never going farther from us than —at the outside—thirty paces.

Seebohm came up and sat down. The old bird now



Eggs of Stints.

EXPLANATION OF PLATE.

Nos. 1 and 3 are taken from eggs of *Tringa temmincki*, *ex mis.*—Mr. H. E. DRESSER.

Nos. 2 and 4 to 8 are taken from eggs of *Tringa minuta*.—Taken by Mr. H. J. PEARSON.

No. 9 is from an egg taken at Tamsö, and may be looked upon as a very richly marked, but otherwise typical egg of Little Stint, *Tringa minuta*.

I have had numerous opportunities of collecting eggs of Temmincks Stints, and have handled many freshly blown and unblown specimens —especially upon the sandy shores and willow-scrub covered islands of the banks and delta of the Dvina—as well as renewing acquaintance with the species along the banks and on the islands of the delta of the Pitchora; and Eastward of the Pitchora, though in diminishing numbers.

I cannot recall any instance (in my own experiences) in which eggs of the Temmincks Stint could be mistaken for any of the eggs of the Little Stint which Seebohm and I obtained upon the spongy tundra around Dvoinik.

A greenish tint pervaded the ground colour of *all* freshly taken eggs of Temmincks Stint, which was *rarely* (*never*) found in any one of the eggs of the Little Stint which we obtained.

In fact, the eggs of the Little Stint were—as described in the Ibis and in the text of my Journals, "*Miniature Dunlins*"—running through most of the same colour variations as those of their larger relatives. But, so far as my experiences went, Temmincks Stints eggs were much less like eggs of Dunlins, both in contours and in colours; so much so, indeed, that we were always remarking upon the fact.

Also, so far as my experiences have taught me in these localities, and many times again since—as a large series of Temmincks Stints lay in my cabinet under repeated examination—*that green colour faded*, but remained longer apparent if the shells were held up to the light; but even that faded out in course of time.

Temmincks Stints, in my experiences, selected dry and even sandy soil, and their sparsely lined nests were usually—rarely otherwise—mere *cup-shaped hollows in the ground*. But Little Stints nests were perfectly different in form, and were placed up upon the tundra, and deeply lined with the Arctic plant leaves which grew in rank profusion within reach of the small birds' bills as they sat on the nests.

In the Plate, Nos. 1 and 3 (Temmincks) are purposely figured as most nearly approaching variations of the Little Stint, and No. 2 is selected as the nearest approach of a Little Stint's to the variations beside it on either hand. I cannot help thinking, however, Nos. 1 and 3 have been taken from faded specimens, as they lack the greenish ground colour. As already said, I speak solely from my own personal experience *in the field*.

In conclusion, I consider the habits of the two species to be so widely different—their habitats, their feeding grounds, their flight and cry, and behaviour at their nests, not to speak of their rather different dispersal and routes of migration, so far as is known—as to cause me to look upon Temmincks Stint as a typical *Riverine* or fresh-water-haunting species, and upon the Little Stint as more *Maritime*.

EXPLANATION OF PLATE.

Nos. 1 and 3 are taken from eggs of *Tringa subminuta*, ex mus.—Mr. H. E. Dresser.

Nos. 2 and 4 to 8 are taken from eggs of *Tringa minuta*.—Taken by Mr. H. J. Pearson.

No. 9 is from an egg taken at Tamsö and may be looked upon as a very richly marked, but otherwise typical egg of Little Stint, *Tringa minuta*.

became a little shyer, but still flew round us in circles, alighting here and there, but did not again approach so near as before.

I soon now, at Seebohm's suggestion, shot the bird, and we proceeded to search for another nest or young, offering Simeon two roubles if he found a nest of eggs.

Piottuch and I ran forward, he being a little in advance, and in a trice we had three more young, a little older than the first ones.

Within fifteen yards of where we got these three young a bird rose, and we again ran forward.

'Hurrah! Monsieur, les œufs, les œufs.' And the next instant we were sitting one on each side of the nest, the birds of both eggs and young flying round us or alighting within twenty paces, neither of them so tame and fearless as the parent of the first nest of young.

And the eggs? *Miniature Dunlins*, three dark and richly marked, and the fourth light and much more faintly streaked, but also just like one Dunlin's egg in our collection at home, taken in South Uist.

And the nest? Rather untidy, rather rough and uneven round its rim, very shallow, sparingly lined with dry grasses and a little leaf or two, which may have been plucked by the bird as she sat in her nest. Round it, deep, spongy, but not wet, yellow moss, * the dark green leaves and empty calices of the Arctic Bramble,† a tuft of round-stemmed green sedge with seed; ‡ a little further off, the now flowerless plants of the sweet-scented dwarf rhododendron,‖ and bunches and patches of long white grass and plants of a small cotton-grass,§ and other plants and grasses, of which we shall bring home specimens for identification.

* *Sphagnum?* † *Rubus arcticus.*
‡ *Carex rariflora.* ‖ *Sedum palustre.*
§ *Eriophorum vaginatum* and *E. polystachyon, var. latifolium.*

And the tundra, the locality? Later we will attempt to describe it.

Simeon coming up, again having left on a search for another nest, caught the fourth young one of the other bird.

Seebohm had come up some time before, and we all four sat echoing the sentiments uppermost in our thoughts at the time—'*Très bonne chose.*' 'Bravo, Piottuch.' 'Just a little Dunlin all over,' and the nestlings, little Dunlins too, red, not grey like the young of Temminck's Stint.

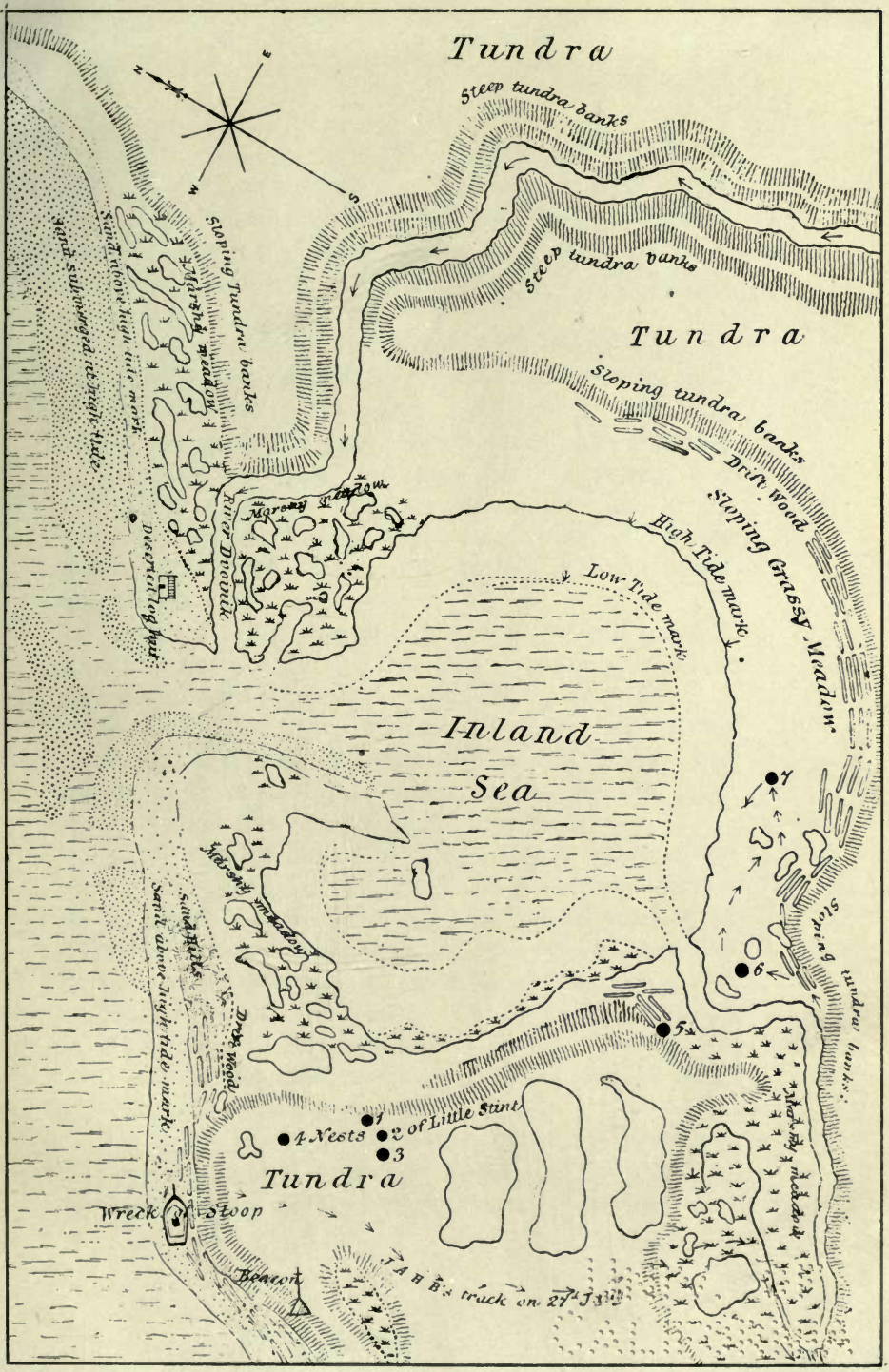
Both old birds were shot, the bird of the nest with the eggs, and the bird of the four young.

The turf, a foot square, holding the nest, was cut out carefully with a knife, and the mass, including the Arctic Bramble plants, the yellow spongy moss, and the tuft of round-stemmed green grass, placed carefully in a red silk handkerchief with a bit of cloth rolled up and put in the nest. The three old birds were put in paper bags and the bags carefully numbered 1, 2, and 3 (with two young, four eggs, and four young respectively).*

* The following is a *List of the Plants* that we found growing on the tundras at the breeding-places of the Little Stint and Grey Plover which was named for us by Professor A. Dickson, of Glasgow University, and Mr. John Sadler, Vice-Secretary, Royal Botanical Society, Edinburgh :—

No.
1. *Eriophoron vaginatum.*
2. *Eriophoron polystachyon, var. latifolium.*
3. *Equisetum variegatum.*
4. *Vaccinium vitis-idæa.*
5. *Carex hyperborea.*
6. *Salix glauca?*
7. *Vaccinium oxycoccus.*
8. *Carex rariflora.*
9. *Polygonum viviparum.*
10. *Carex* sp.
11. *Parnassia palustris.*
12. *Astragalus* sp.?
13. *Rubus arcticus.*

No.
14. *Diapensia lapponica.*
15. *Viola palustris.*
16. *Ranunculus auricomus.*
17. *Polemonium pulchellum.*
18. *Trientalis* sp.?
19. *Dryas integrifolia.*
20. *Sedum palustre.*
21. *Pedicularis hirsuta.*
22. *Geranium sylvaticum.*
23. *Draba* sp.?
24. *Andromeda polifolia.*
25. *Cortusa matthioli.*
26. *Sphagnum* sp.?



MAP OF THE LITTLE STINT GROUND.

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It is also worthy of remark that the old birds did not hover in the air above us as Temminck's Stint does at its nest, but only, as already described, flew in small circles round us, alighting tamely always within range of our guns. The first old bird secured was, without exception, the tamest bird I have ever seen, Dotterels and Phalaropes not excepted.

Piottuch, in capital spirits and with deservedly good luck, afterwards secured for us four more young Grey Plovers, and shot the old bird. We searched for more Stints' nests, starting two or three more birds near the same place, but found no more eggs or young, and returned to our Crusoe-dwelling late in the night to sup off an excellent 'Kouropatki' stewed with wild leeks, and bread fried and browned in butter. '*Toutes choses sont très bonnes.*'

Our house is the spacious hall of the wreck, which is wind-proof at all events, and clean (?) and dry, and quite a palace compared to our quarters at the lading-port of '*la pauvre Compagnie.*' We wish much we could have known a fortnight earlier of this ground. We should have lived here a month as easily as a week, and more comfortably and more independently than at Alexièvka.

Seebohm and I have rigged up a capital table at the bow with the cover of the hold, and a waterproof sheet for a table-cloth. We have a capital bed on the sloping curved side of the hold with our mattresses, pillows, and wraps, and the men sleep at the other end.

Piottuch has a little house on deck all to himself to skin and sleep in, the bottom of which (or floor rather, with part of the walls) is let down into the hold about two feet and a half.

The wreck has lain here now about three years, but is in a good state of preservation, and, not being subject to inundation in spring, like the houses at Alexièvka, is,

without the aid of stoves or other ventilation than that afforded by the entrance of the hold, almost as dry as the first floors are in the latter place.

The sea is close at hand and is almost drinkable, and is suitable for boiling beef or making soup. Our tea-water has, however, to be carried for a distance at present, but to-morrow we shall have excellent water from a runlet close at hand, which I deepened at one place to catch the tiny stream.

The bottom, or soil, at the base of the tundra-earth, or peat-cliff, is deep blue, fine clay, exactly similar in appearance to that which is found under our peat-moss at Shirgarton (Stirlingshire) (where we get bog-oak in abundance, and also where the large horns of the deer were found which are now in Feilden's collection—perhaps as fine as any in Scotland).

July 23.

On Friday, the 23rd of July, after a short but sufficient sleep, and breakfast of cold toast, tea, and cold *beef fibre*, we told the men of the rewards for the eggs and turf containing nest with old bird (5 roubles), for the young in down (50 kopeks each), and the old bird procured if possible. For the first nest of eggs, etc., we gave 5 roubles, but others afterwards only 2 roubles.

Seebohm and I then went out, and, as the tide appeared to be very low, we went again to the same ground as yesterday, in the hope of shooting some more Little Stints, and possibly Curlew Sandpipers. We crossed over the part of the tundra where the former were found breeding, but saw no more birds. We observed that the particular ground frequented by them is often intersected by deepish ruts crossing one another at pretty regular intervals at right angles, and which are about a foot deep, and clothed on their sides and edges

with a thick growth of Arctic Bramble (really *Rubus arcticus*, not *chamæmorus*. See foot-note *antea*).

On reaching the shallow pools we saw a bird rise and marked it down, and Seebohm went on and shot it, while I returned to pick up my binocular, which I had laid down.

Before I rejoined him he shot two young Snow Buntings, and afterwards I shot two, and he the mother and another young one—in all, five young and the old ♀. It is possible that the ♂ he shot on the 14th may have been the father of the flock, as he was shot near the same place; but later in the day we saw another fine male a little further along. These birds were frequenting a pile of drift timber strewed or heaped up near the shore at the west end of the sand-hills. They were probably bred here, as the drift-logs and stony beach are suitable enough, but it is also possible that they may have taken a trip down or made a permanent migration from the Pytkoff Mountains.

Shortly afterwards Seebohm fired at a bird running in the grass of the meadow, and I caught another. They were young Dunlins.

I shot another Temminck's Stint—which birds are quite scarce here—at the same place where Piottuch shot one yesterday. It hovered, as with the usual habit of the species, and *trilled* overhead. A Glaucous Gull was also shot, and a ♀ Wheatear, which was frequenting the peat-cliff facing the sea.

The sun was very powerful and the mosquitoes rather abundant, and we came in about 4 p.m. Gavriel and Bolshai Feodor had soon given up the search, but Malenkai Feodor and Simeon returned late and reported that they had not seen one bird, and had no eggs or young, of the '*Malenkai* (small) *krassnai* (red) *kuleek*' (Sandpiper). They brought back two nests of eggs and down of Long-tailed Duck, of five and three eggs each.

July 24.

Saturday, the 24th of July—the sun had set last night, and remained under the horizon line of the Arctic Ocean about two hours.

After midnight, it being perfectly calm, and the men having had a long day on the tundra, Seebohm and I took the small boat and rowed along the shore to the other side of the River Dvoinik.

The 'twin capes' are the two promontories on each side of the river or entrance to the inlet; but the River Dvoinik flows into the narrow entrance close to the East Cape of Dvoinik from a south-easterly direction—from the direction of the Pytkoff Mountains.

We shot first a Temminck's Stint, which species is much commoner on this east side, and it ascends, as we afterwards observed, the muddy valley of the Dvoinik River in some numbers.

Shortly afterwards we slew some Long-tailed Ducks and a Pintail, and secured the young of the other.

The Long-tailed Ducks were the tamest of the tribe we have met with anywhere, allowing a near approach in the open, but the quickness with which they 'dive at the flash' makes it often difficult to shoot them.

We found these birds on a grassy meadow similar in nature to the one already described, and also Ringed Plover along the sandy and gravelly stretch of ground between the meadow and the sea.

Close to the promontory and to the mouth of the river there is a small wooden hut, built of drift-logs, which could be easily made habitable in a short time, and a cross of the same material stands beside it.

Working on past the meadow to the gently-rising tundra, we searched in vain for more Little Stints. On the meadow, on the margin of its many little pools, Seebohm had shot two out of a small party of three

of these birds, and, returning later in the day, I shot the third.

Arriving at the top of the slope, we saw that the tundra now sloped gradually away to the south and south-east, and we had a somewhat clearer view of the distant Pytkoff Mountains. A thin white mist lay along the distant hollows of the tundra in a wide semicircle between us and the mountains, having, at first sight, the appearance of a long, almost uninterrupted, narrow arm of the sea, stretching from the distant waters of the Boluanski Bucht on the west almost to the Arctic Ocean on the north-east.

We came upon the old site of a Samoyède choom, round which bones of Reindeer were strewed, and we picked up a wooden 'paysik,' or button, one of the fittings of the Reindeer's harness. (See Appendix C—on Samoyèdes.

Shortly afterwards we watched a Plover, and at last shot it for identification. In the low sunlight it was extremely difficult to identify at a distance. We were both completely taken in, and thought it was a Golden Plover. The double note and the single both occurred, and made us desirous of securing the bird in order to find whether or not the Golden Plover ever does utter the double note. My impression was that it does do so, but not commonly, and that I have heard the double note in Scotland. This was a Grey Plover, and certainly a darker, duskier female than others we have before obtained.

While searching for another Grey Plover's nest further on—which, however, we did not find—we shot a young Lapland Bunting, and we also shot another young one of the same species in an interesting stage of plumage.

We now turned back towards the meadow, and struck the bank of the Dvoinik River about 1½ versts from its

mouth. Here Seebohm shot one old and one young Shore Lark, and we saw an Eagle and, as before noted, a good many Temminck's Stints. He went some way up the river, which has steeply-sloping banks, and at low tide an edging of mud.

Feeling tired and very sleepy I went down the river towards the log hut. A ♀ Red-breasted Merganser pitched on the river close to me and within twenty yards, and behaved quite as if she had eggs or young in the vicinity. I fired, but she dived at the flash, and, rising out of shot below me, took straight away down the river. I searched a long time for the nest or young on the steep, sloping bank, under logs of drift timber or overhanging pieces of turf, but failed to discover it. I picked up, however, a single feather which I did not know, but which may prove to be one of the breast feathers.

I have now seen and identified with perfect satisfaction to myself some four or five Red-breasted Mergansers during this trip, but we have been unfortunate in neither securing a single specimen nor in having any eggs brought to us.

I got back to the log-hut some time before Seebohm, lay down, and almost immediately fell fast asleep. When he came up we dragged the boat down to the water and pushed her over the shoals. A surf was running on the shore and the wind was rising, and a thick ice-fog rapidly rolled over the water from the north, and in a few minutes land and sea were almost lost to sight at a distance of sixty or eighty yards. We crossed the channel and hauled up the boat on shore, and Seebohm remained to have a bathe while I went on and got dinner ready.

In the middle of the cooking Piottuch came in joyfully, announcing two more nests of eggs, one which he found

about 3½ versts off, and of which he shot the bird, but which he did not take, as he wished us to see it, and the other at the old place, and which Seebohm and he found together, they having met after I came on.

This last was a very neatly-formed nest. Seebohm heard a bird cry in the air behind him, and said to Piottuch, '*C'est le râre Kuleek!*' and it shortly after alighted about seventy yards from them, beyond where they afterwards found the nest. This bird had come probably straight from its feeding-ground among the shallow pools to cover its eggs, and the mist had probably quickened its movements. They watched it to the nest and walked straight up to the spot after giving the bird two or three minutes' grace. It was very tame, running round them and coming close up like the bird of the first young Piottuch found yesterday. On first alighting it preened its feathers and walked leisurely on to its nest. Seebohm and Piottuch watched it for about half an hour preening itself and walking about, and it did not take any trouble whatever to conceal its movements, having apparently not the slightest suspicion of danger.

Seebohm shot the bird, cut out the turf with the nest, and brought home the eggs. They are like the others—Little Dunlins' eggs all over—and we think we may now with tolerable accuracy conclude that they run through many, if not indeed all, the varieties which the Dunlin's eggs are subject to.

These are handsome eggs, but not quite so richly blotched as those of the other nest of yesterday.

Simeon brought in four young Dunlins with the old bird, and a single young Little Stint, which must have been hatched out at least ten days ago.

As we have now the young of both these birds in two stages of plumage, and as in general appearance they

closely resemble one another, it may be well here at once to institute a comparison.

First, we will take the youngest Little Stints and the youngest Dunlins, and these are to all appearance of the same, or *very* nearly the same, age—viz., about two days' old.

Little Stint juv.	Dunlin juv.
Tarsus and feet quite a 10th of an inch less.	.... longer.
Colour of down on back and sides of neck redder; and less black showing through.	

At night the surf was running high on the shore, and a cold strong wind, almost amounting to a gale, blew from the north. All the mist cleared off, and the air had quite a wintry chilliness.

About 7 p.m. Piottuch took us to the fifth Little Stint's nest, about three versts off.

On the way we caught a young Grey Plover, the old birds flying round at the time. It is larger than any of the others we have, and the golden tinge on the down is much fainter, giving place to grey.

The Little Stint's nest was on the sloping edge of the tundra, on the bank of a small river which runs into the inlet at the south end.

The turf was rather different from that surrounding the other nests, but the Arctic Bramble was still present, and a good deal of bright green moss, and a larger quantity of wiry *Juncus* or *Carex*, while the yellow deep moss or *Sphagnum* was quite absent.

When cut out there was found to be only a thin layer of vegetation over a black peat soil, whereas the turf cut

out with the first nest of eggs almost entirely consisted of moss to the depth of four inches.

This last nest is lined with more leaves—dried dwarf willow and Arctic Bramble* leaves—gathered probably by the bird as she sat in the nest.

Piottuch had marked the nearest point the bird had approached to when he was at the nest by sticking a small piece of stick upright in the ground. It was about a gun's length, or a little more, from the nest. The bird when there preened her feathers.

The eggs show another variety still resembling a variety of the Dunlin's, and are intermediate in richness of coloration between the other two sets of eggs.

We shot three Little Stints, a Dunlin, and Temminck's Stints, which were feeding along the margins of the river.

Simeon brought in two eggs of the Black-throated Diver and the two birds

July 25.

On Sunday, the 25th of July, Seebohm and I took a stroll in the opposite direction from the Stint ground, and came upon a large marsh with a few pools of water.

Here Seebohm shot what we then thought was a Grey Phalarope, and we afterwards secured three more and three young Phalaropes, but were unable satisfactorily to identify the latter, as both species were frequenting the edges of the loch and marsh. But afterwards we found, as stated further on, that they were all Red-necked Phalaropes of various ages.†

The marsh underneath was hard frozen at a depth of from 1½ to 2 feet, and as I had got my long boots wet

* *I.e.*, *R. arcticus* which is the dominant *Rubus* here.

† When our skins were examined at Sheffield by Messrs H. E. Dresser, Howard Saunders, and H. Seebohm, in September, 1875, these examples were pronounced to be immature Red-necked Phalaropes in *winter* plumage.

inside yesterday I had to-day also to wet my short ones, and the cold of that water was intense.

We found the nest of the Black-throated Diver close to the edge of the pool frequented by the Red-necked (and Grey) Phalaropes, and actually built in the water, of water-plants, a bulky structure compared with our sparingly-lined *hollows* in Scotland. The egg is unusually small, but we identified the bird carefully as it flew repeatedly close overhead.

We examined also an old nest on the top of a raised mass of sphagnum in the marsh, and picked up a few pure white feathers around it. We think it belonged probably to a Glaucous or other Gull, and is of the deep bowl shape common to the nests of the larger gulls. Beside it also was a space much tramped down, as if by some heavy bird which liked to stand beside its nest, as Gulls often do.

I watched a pair of Grey Plovers for a short time in vain, as the female kept alighting within fifteen yards of me wherever I lay down, though I tried places as much as fifty yards apart.

As the season advances the plumage of the female appears to change more rapidly than that of the male, which latter seems to retain the full plumage longer. At one hundred and fifty yards distance to-day the breast of the female appeared almost white, and at fifteen yards only a narrow strip of black was discernible, but at one hundred and fifty yards the breast of the male appeared as black as ever.

On comparing our old and young Phalaropes we found the following differences between the two ages. Of the younger bird we have two of each sex, but we await dissection before noting the difference between males and females, and to see whether or not the male is less brightly-coloured than the female.

When we made our first comparisons we fancied we had secured two *species*, but the signs of immaturity or moult undeceived us.

N.B.—These turned out to be young of the Red-necked Phalarope, not the Grey.

The first somewhat curious difference which we note in the two is the remarkable slenderness, or rather limpness (flexibility), of the bill of the young as compared with that of the bill of the older birds.

The next is the absence of red on the neck and presence of red on the crown of the head of the young, and *vice versâ* in the old. In all the four specimens of the former the red on the head can be distinctly seen, and in all the specimens at present available—five examples—of the latter it is entirely absent.

The red also is present in the tail of the young and absent in the old, the feathers of the former being broadly margined with it, and the whole upper plumage of the former is richer than that of the latter, the red extending to the edges of the longer bastard wing feathers in the one and being absent in those of the other.

Further distinctions are the blue-grey or neutral tint of the wing of the young, and the yellow under surface of the feet and legs and pale lead, almost flesh-colour, of the upper surface of the same, as compared with the brown wing and dark lead colour of the whole legs and feet of the old, with the exception of a faint tinge of yellow on the edges of the webs.

There is also a slight difference in the amount of white on the outer upper-tail-coverts, the young having the most, but this distinction is too fine a one to be of much service, and perhaps may not hold if a larger series were examined.

Further distinctions between the young and old Red-headed Phalaropes are the lighter purplish-grey on the

side of the head and of the breast in the young, as compared with the darker brown on the same parts of the old, and the greater distinctness of the white above the eye of the young.

July 26.

In the morning of Monday, the 26th of July, Feodor and Simeon came in after a long day and night, having covered a considerable distance of tundra and swamp.

They went away towards the south-west and—according to their account, extracted by much cross-questioning with and without Piottuch's assistance, our own efforts being in bad Russ, more successful than Piottuch's, and less interlarded with parentheses—saw a great lake near the sources of the Eevka and Erisvanka rivers. They had travelled some 25 or 30 versts, and carried the fruits of their expedition back, viz., a fine Bewick's Swan, which they shot out of a party of nine upon the large lake. Simeon shot the bird, and had Feodor had possession of a good '*pooshka*'—literally cannon—they would doubtless have secured one or two more. They stalked up to within twenty-five or thirty paces of the birds, and on being slightly alarmed the latter swam up close together and stretched up their necks.

In case of a misunderstanding arising as to which Feodor undertook this long tramp, we had better distinctly state that Bolshai Feodor never walked further than his belly would permit him. We have also given him the second distinguishing cognomen of '*Moi skaffum.*' With an unctuous roll of the tongue, a perceptible thickening of the lips, and an expectant twinkle of the eye and a significant pantomime of the big thumb, which follows the utterance of the words '*Moi skaffum*,' we are made aware of our lotsman's (steersman's) intentions of immediately commencing to eat. Poor fellows, their food is coarse and insufficient, and wanting in strength-giving

properties, but they seem to eat it with relish too (especially Bolshai Feodor).

In the morning we had a good deal of rain, accompanied by high wind, which latter continued all day and increased to a gale at night. The wind blew straight from the north and from the Arctic ice, and was bitterly cold. Our Crusoe dwelling proves far from water-tight, and being damp also we feel the cold more.

In the afternoon Seebohm and I went out, he preceding me by about an hour and a half under the impression that he had had a good *night's* rest, and when I met him afterwards on the tundra he saluted me with 'Good morning!' Further, being a good hand at an argument, he nearly persuaded me that he was right. We feel quite puzzled as to whether it was yesterday or to-morrow, and even began to doubt whether it might not possibly be the *day after!*

He had carefully and perseveringly hunted the Old Stint ground in vain, and, after finishing it, was surprised when a couple of Buffon's Skuas passed over to see some twenty birds (of sorts) flushed from the same ground he had just worked.

He then went on to where the fifth nest (third nest of eggs) were found by Piottuch, but saw none there either.

Coming later, I also beat up the former ground, carefully following the lines of the deep trenches I have before mentioned, and missing as little ground as I could.

At a place where we had before seen a Little Stint apparently stumble off its nest (which we had failed, however, to find, and had marked by overturning a couple of sods) I saw what for a second or two I took for a Little Stint. It was within a yard or two of the pieces of turf. I soon saw what he was, however, and shot it, only a young half-grown Dunlin.

Soon after I met Seebohm, and while we were together I shot two Red-necked Phalaropes which flew towards us across a lake, and alighted on the shore.

I afterwards made the circuit of the lake in search for more, and saw more Red-necked, but did not secure any of them.

I shot another young Dunlin in the same stage of plumage as the last, and then proceeded to the Stints' feeding-ground, whither Seebohm had gone before me.

There I shot two Red-necked Phalaropes, but they were far advanced in moulting, and another young Dunlin.

Seebohm had gone on to the far end of the promontory —the West Twin Cape—and I saw him coming back with what I at first thought was a Swan, but which on a nearer approach I saw was a Snowy Owl. He had stalked it as it sat on the beach, but before he got within range it rose and flew across to the east side, and he again discovered it resting there, with his glass. As he lay looking at it, it rose again and flew straight back towards him, perhaps taking his fur cap, appearing above the bank, for something which would be good to eat. It settled within sixty yards, and Seebohm walked towards it, and as it rose broke its wings with a slug-cartridge. It fell in the river, but he secured it, the water being shallow.

Seebohm also shot two Dunlins and a Little Stint, and whilst in the act of retrieving them a Buffon's Skua dashed down and carried off one of the former. Something having for some time been wrong with the extractor of his gun, he was not able to load quickly enough to secure the robber.

When returning from the lake where I shot the Phalaropes I again made a short search for the Stints. One bird flew up and alighted, and I afterwards flushed it again, but it flew straight away, alighting for a second

or two about fifty yards off, and then again rising and going away. I marked the place but did not spend much time in searching, as I did not think there was a nest or young. Our impression now is, that there cannot be many, if indeed any, more Little Stints—young or eggs —at this locality, failing as we have done in seeing any more birds there, behaving in the way those of the nests and young we found did, and indeed having seen comparatively few birds on it at all, since we found the young and eggs.

This part of the tundra slopes gradually towards the inlet and two lakes of brackish water, and faces the north-east. It is covered with a thick growth of the bushy plants of the Arctic Bramble (*Rubus arcticus*), which leaves scarcely a square yard free of vegetation. The dwarf rhododendron-like sweet-smelling plant (*Sedum palustre*) is also tolerably abundant but very small and inconspicuous. Large quantities of deep, soft, faded Sphagnum or yellow moss cover also a considerable portion of the ground, and growing through it are sedges and grasses and a green star-shaped moss, the latter being the same which is often found on the Grey Plover ground.

Reindeer moss is scarce upon this Little Stint ground, growing only in small tufts here and there, but the innumerable small round hummocks with which parts of it are thickly studded are covered with a thin crust of white lichen, which, blending with the darker colour of the peat soil, gives at a distance a grey hoary appearance to the higher portions of the slope.

In many places this hummocky ground is sharply defined, giving place at its edges to tracts of slightly damper ground which are covered with matted white and green grass.

Here and there patches of cotton-grass wave their white heads in the breeze, and single stems of the same

are scattered broadcast over the mossier Sphagnum-covered portions.

The grey hummocky ground is curiously intersected by narrow natural trenches about 1½ to 2 feet in depth, probably formed by the snow-water as it trickles down towards the inlet and lakes in spring. These trenches are mostly at right angles with one another and connected, forming raised squares of tundra land between, or resembling the meshes of a net on a giant scale. Their edges and sides bear Arctic Bramble in larger quantities than the rest of the surrounding slopes, and the bottom is usually covered with grasses and sedges, but is sometimes bare of vegetation, showing only the dark peaty soil.

Looking at these thick beds of Arctic Bramble plants and the dry narrow trenches, one cannot help thinking how luxuriantly one might rest in them, 'and with upturned lips milk the rich juices of the fruit,'* lazily turning from side to side. One's head might be pillowed on the plants, and in a season when the fruit is plentiful, and yellow, and warm, and ripe, one's sides and hands be brushed by innumerable berries, and great plenty be within reach of one's unaided lips.

July 27.

At 5 a.m. on the morning of Tuesday, the 27th of July, I got up with the intention of reaching the far shore of the inlet, on the opposite side of the little river which flows in at the south corner, and devoting the whole of my attention to searching for nests of Little Stints on this, as yet, virgin ground. I struck across the tundra, passed the lakes from whence we believe the little river flows, and on to a low-lying marshy tract studded with little pools of water, and discovered the source of the river, which appears to run underneath the marsh and to be

* Quotation from the letter of a friend written from Bodo or Drontheim as long ago as 1871 or 1872.

possibly, indeed I may say probably, connected with the pools just mentioned.

In all this stretch of tundra and bog I saw only a solitary Willow Grouse and a few Lapland Buntings, Red-throated Pipits, and a pair or two of Grey Plovers, and at the pools in the marsh only a solitary Red-necked Phalarope.

The south shore of the river was equally barren of bird life until I neared the inlet, when I saw a few Temminck's Stints hovering over their young or nests, a pair of Terns, and a few pairs of Buffon's Skuas.

I arrived on the bank of the river almost exactly opposite to where we took the eggs of the fifth Little Stint's nests (eggs No. 3) which Piottuch had found.

Here a Little Stint was seen to fly up from the feeding ground on the margin of the inlet, and alight by the edge of a small pool of water. I was just going to shoot it when I—fortunately—suddenly came to the conclusion that the fewer killed, and the fewer shots fired, the better chance I should have of getting eggs. After ten minutes spent in preening its feathers our little friend flew up and again settled upon the grassy slope close to a bunch of wild leek, again preened its feathers, and running down a little slope towards me disappeared.

I watched carefully for its re-appearance for some three or four minutes, and then walked straight up, about forty yards, to the nest, flushing the bird off when not more than ten yards from it. It settled fifteen yards or so further off, and then flew straight away, being, I believe, more alarmed at the presence of the black dog, Isaac, than at mine. I waited by the side of the nest for some time to shoot her, and at last got a shot, and wounded her slightly.

All our dust shot is finished, and we are reduced to using No. 8, which is next to useless.

She never returned, though I waited quite an hour.

This nest was on quite different ground from the others, and is hollowed out amongst loose half-sandy soil sparingly covered with short green grass. Sprinkled over this were a few isolated plants of the fleshy leaved [?]* and further inland were many bushes of dwarf willow.

The real tundra was 150 yards from the nest, and I took occasion to pace the distance as I returned from gathering sphagnum wherewith to pack the eggs.

I managed to dig out the nest and loose turf in which it was placed, but it is of little interest as compared with our previous nests. Close to the nest was a quantity of driftwood scattered over the turf, and a few small fragments lay touching the edges of the nest. The nest was lined with dried willow leaves and bits of grass, and contained four eggs, handsome dwarf Dunlins, richly blotched at the large ends.

While I sat at the nest a Red-breasted Merganser flew down the river and alighted almost within shot, but concealed from my view by the round bend of the river-bank. I went forward but the bird rose full forty yards below me. I fired and hit her hard, but not sufficiently hard to stop her flight or impair her powers of diving afterwards.

I had a long chase, but though constantly in range, I never got a shot, as her movements in the water more resembled the rising of a trout than the diving of a bird.

During the chase I dropped my binoculars, and spent quite another hour in the search for them, and found them lying within a foot of the water's edge.

Two Buffon's Skuas also made short work of a couple of Dunlins, one picking one up from the ground, and the other seizing the other Dunlin as it rose, the one Skua acting like a Hen Harrier, the other seizing its prey like

* Not named in my Journals nor in our paper in the 'Ibis,' but probably the leaves of Sedum and Dryas.

a Falcon. They bore them off to the tundra, and settled to their repast on the tops of the hummocks.

About four hundred yards further along the shore, and on the grassy dwarf willow-covered meadow between the sharply-defined tundra proper, and the equally well-defined basin of the inlet, I found a second nest, also with four eggs, watching the bird fly up from the mud and alight, flushing her, and watching her again to the nest.

This time the nest was on the top of an isolated clump of *Sphagnum*, through which were growing a few twigs of dwarf-willow.

In every respect the habits of the bird were the same as of those at the other nests, save that the presence of the dog seemed to cause her more alarm and made her shyer of approaching. She once shammed broken wing, and once flew away to the mud flat, but in fifteen minutes at the outside I marked her on to the nest. I shot her, packed the eggs, but left the nest as we have now plenty of the latter, and continued for a verst or so along the likely-looking ground without seeing another Little Stint.

I shot two Red-necked Phalaropes on a little pool on the Stint-ground, and then returned to the wreck, where I found Seebohm busy at work preparing the breast of the Swan for dinner, baking it in clay under a roaring wood fire on the beach. It proved to be far from unpalatable, aided by stewed prunes and 'tschai'; 'better in fact than it was bonny,' for it came out as 'black as black.'

In the afternoon Seebohm went across to the opposite side in the boat, and had a hard pull to get across. He went up the left bank of the piece of water which we took for a river, but which the men now tell us is an inlet of the sea, and crossed down to the side of the inlet.

He saw about two hundred Wild (Bean) Geese, old and young, *en marche* for their quarters in the interior of

the tundra, where they finish their moult, and he describes it as a most interesting and curious sight.

When he first saw them they were descending the steep slope of the bank, and the vanguard of old birds, about six abreast, had already marched half across the river (we shall still call it a river, as we are unwilling to believe what we hear after finding so much information erroneous).

They saw Seebohm, unfortunately, before he could conceal himself, and when he ran round a few minutes afterwards to intercept them at the crossing place, he found that they had turned back and were marching towards the south along the river-bank, *i.e.*, up the river from its connection with the sea, like a regiment of soldiers.

This river or arm of the sea, extending as it does for miles, must afford excellent protection, and the grassy slopes showed signs that they had been feeding there before.

Piottuch assures us that the geese do not, however, rest long at one place, but keep moving whilst this month is going on. That they had before used this ground as a feeding place there can be no doubt, but that they will now change their quarters, having been disturbed, is more than probable.

This becomes now a question of some importance to us, and may become one of great importance ere very long.

The storm of wind still continues blowing from the North, and the steamer has already passed over one of the three days without appearing. If the gale continues she cannot come to-morrow or possibly for three or four days, and the lading of the vessels will, of course, also be delayed an indefinite time, as the rafts cannot be brought down against such a wind.

I forgot to mention that I saw two more vessels looming high in air off Stanavoialachta or Boluanski Noss on the day we got the first supposed Grey Phalaropes, so there will now probably be four ships lying opposite Alexièvska.

Our bread is reduced to one half loaf, and we have been on rations of half a loaf among three for some days. Our tea may hold out for a week, our sugar is done, our cooking butter may be made to last two days, our salt meat is done, and we have now to depend entirely upon our guns for food.

Our men are equally badly (indeed worse) off, for they have been improvident, and instead of reserving bread have always filled their bellies.

Now Bolshai Feodor's face is less merry and his voice is sad, and as he crosses himself he says half seriously half jokingly, '*Hospodee di moi khlaib*' ('Oh God, give me bread'). Therefore the Geese's movements are doubly interesting to us, both as naturalists and as human beings.

Seebohm found the old grave of a Samoyède or a Samoyède's child, and brought back some bones and pieces of pottery from the inside of the wooden box which contained apparently a child's skull, and rib bones of a dog. According to the account we have received of the burial, this might be the grave of a child of unchristianised parents, and there is no appearance round it, according to Seebohm's account, of a cross, or remains of a cross.

But it is also possible that the true grave is underneath, and that the box laid on the top contains only his favourite dog, drinking vessels, etc., and that the piece of a skull we have is not human at all.

If possible, we must pay another visit to this grave, but we hope now for the arrival of the steamer daily.

Seebohm also found Willow Warblers common at this locality, but did not see a single Little Stint by the side of the inlet. Altogether he had a most interesting day.

July 28.

On Wednesday, the 28th of July, the gale continued as fiercely as ever, so we had to give up hopes of seeing the steamer that day.

As we have no Ducks or other food, we had all to sally forth to search for the same.

We had a Kouropatki which Seebohm shot yesterday for supper, and a lot of little birds for breakfast to-day with three eggs far advanced in incubation.

Piottuch with Feodor and Simeon, went in search of the geese, Seebohm to shoot Dunlins and Waders, and I took a west course to search for Ducks.

Near the lake where we shot the young Ducks, I saw a Bar-tailed Godwit, and three times stalked him as he sat bunched up like a Woodcock with head drawn back and bill pointing straight before him, but he was very shy and I did not get a shot. He was a handsome bird, all the breast showing dark chestnut.

Piottuch mentioned the other day that he had also seen one Black Redshank (?).

I shot a Grey Plover, but never got within range of any Ducks, and indeed saw very few of the latter.

I passed the lake, went on some six or seven versts, passing other lakes, and discovered another inlet from the sea very similar in appearance to the one already described, except in its shape, which is long and narrow and runs parallel with the shore. There is a ridge of gravel and sand, and a row of drift logs and branches next the sea; and a green meadow inside, with however only two or three pools, but with dry, bare patches of mud where shallow pools had once been. Then comes the inlet and

beyond it the grassy slope and second row of drifted timber, and then the tundra.

Here I fired into a flock of Dunlins and killed six. I saw a Swan and had a long shot with P. cartridge, the shot rattling on his feathers, but taking no further effect; and then I turned to come home.

But a flock of Waders flew past and alighted far behind me at a muddy dried-up pool, and I went back in order to identify them and possibly get a shot. I got near and saw that they were all Little Stints, and as our cartridges are not so plentiful and there is little eating on a Stint, I did not fire.

I went to the end of the inlet, fording one of the two entrances from the sea which has a hard, gravelly, and sandy bottom, and came upon a large extent of splendid grassy, dwarf-willow-covered meadow Stint ground; but over the whole of it did not see a single Stint.

Tired, and almost done-up, I got back to the wreck late at night, having been out six to seven hours and walked only some paltry ten or twelve versts; and to feel tired and exhausted with this shows to some extent the insufficient nature and quality of our food. We have not much craving for food, merely a sense of a great void sadly in want of being filled up; and a want of elasticity and strength in our limbs. Albeit we could sit down with real relish to a shoulder of highland mutton, or even a good big bowl of porridge.

Close to the wreck I shot an immature *Larus cachinnans* (*i.e.*, *L. affinis vera*), the first we have obtained, and I had to walk nearly half a verst back to pick him up, the wind and waves having drifted him down as far as the beacon.

I found Seebohm had returned and had had little better success than I, getting only some dozen Dunlins and four Grey Phalaropes, and snapping at a Willow Grouse. We have, however, enough for two small meals.

Bolshai Feodor whines out, '*Parahôt neat marsheerum, Feodor, Gavriel propal, neat schaffum*' ('Steamer not arriving, Feodor and Gavriel will die, nothing to eat').

I quite lose temper with the lazy, good-for-nothing fellow, and say, '*Da, Feodor propal, neat drogoi cholovek propal; neat rowbottom, neat schaffum, Feodor*' ('Yes, Feodor *may* die, but none of the other men will die; unless Feodor works he cannot eat'), and turned angrily away.

He scarcely does a hand's turn, and as it afterwards turned out Piottuch had asked him to go on the search for the Geese, and he had refused. He had eaten enough, too, for any three men; and he and Gavriel loaf about and don't do half their share of work, but whine and say, 'Hospodee, *Hospodee di khlaib*'; but do nothing to help themselves or their masters or their fellow-workers. We had an opportunity of showing our disapprobation later.

Piottuch and the other men came in triumphantly bearing on their shoulders eleven old geese and four goslings, and we lost no opportunity of praising them and showing our disgust at the others' selfishness, greediness, and laziness.

July 29.

It was 4 a.m. on Thursday, the 29th of July, when Piottuch and the men returned. After a persevering search they had met with a party of about fifty geese and secured altogether seventeen, old and young. Only one of the old birds was able to fly, but they had a long and tiring chase. Piottuch said that if Bolshai Feodor or another man had accompanied them, they might have secured more than double the quantity.

Seebohm and I judged it better in the morning upon which we all started, that we should take different directions, thus increasing our chances of getting food, and we believe it was the wisest plan, all things considered;

though had Piottuch and the men not been successful our situation would not have been anything so pleasing as it now is.

We have food now for every one with care for thirty meals, the gizzards and livers of three geese a meal for three persons, and the breasts, legs and backs of fifteen geese—at one goose a meal for six persons:

15 geese gizzards and livers	...	15 meals
15 geese bodies, etc.	... ...	15 ,,

Thirty meals for seven persons at two meals per day will last for two days with care.

As a slight token of our opinion of Bolshai Feodor and Gavriel I simply pointed to the Geese and said to Feodor, '*Neat rowbottom, neat schaffum, Feodor,*' and allowed him to go to bed with only a supper of raw leeks and water. Next meal, he will, humbly and repentantly, it is to be hoped, and thankfully, share with the rest, and in future also be a little more anxious to take part of their burden of work off their shoulders. Some may consider it a hard measure to send him supperless to bed, but then he has *himself*, eaten enough for three men, and been the lazy, improvident, whining one of the lot. It is hoped also that Gavriel will profit by the example we have made of his chum.

Help yourselves and your fellow-men, and God will send you bread; but don't cry, 'Hospodee, Hospodee, give us bread,' and sit idly by, or sleep while others work.

The gale still continued and a thick mist now accompanied it. Surely it was to be hoped it would reach its climax soon, and the steamer be able to come for us.

Piottuch told us that both old and young geese when in the water submerged their bodies and kept only the heads above water, and that they both dived, remaining a long time under water. It was also difficult to distinguish, therefore, between old and young. He has

also seen them doing it at Mezèn over and over again during the moulting season, but not at other times, not even when wounded.

Piottuch and the men, having now *seen* the place, acknowledge that it is a river and not an inlet or narrow arm of the sea! *Before was pure imagination!*

We spent a somewhat lazy day, gathering a few flowers of the tundra, and from the Stint ground, and shooting a Reeve in its new plumage, which it will retain during the winter, and in which I hope to shoot them at Kincardine-on-Forth in the beginning of September—a month or six weeks hence.

We measured the footprints of another Swan, and afterwards identified it as Bewick's (*i.e.*, if such measurements can be trusted, which in the case of the two Swans, we believe they can).

July 30.

On Friday morning, the 30th of July, the steamer took us off, and we left without regret the scene of our past week's successes and little troubles. We saw young Fieldfares amongst the scrub at the edge of the cliffs.

The sea was smooth as glass, and about eight o'clock we reached Stanavoialachta, having left Dvoinik about two.

We landed at Stanavoialachta, and went to the second Peregrine's eyrie, in the expectation of getting a second clutch of eggs. We saw the male sitting close to the site of the nest, and he actually allowed us to walk up behind him to within ten yards or less. Piottuch and I were a little in advance, and I bowled him over on the beach below as he flew off. We saw nothing of the female, which had most likely prepared the other nest and was then sitting on eggs.

We did not go to see, but got back to the steamer,

HENRY SEEBOHM (1875).

J. A. HARVIE-BROWN (1875).

IGNATI N. Q. PIOTTUCH,
ARCHANGEL (1875).

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chased by crowds of mosquitoes, and slept soundly all the way to Alexièvka, which we reached about noon.

July 31.

Saturday, the 31st of July, we are now only awaiting the good ship *Triad* to finish stowing her cargo and getting ready for sea. She will have a cargo of 8,000 cubic feet of squared larch.

The heat and the mosquitoes are dreadful, and the ship's crew are suffering considerably, especially Captain Taylor and the mate.

August 1.

On Sunday, the 1st of August, bills of lading having been made out, Seebohm assisting, we were towed out round the south end of the island and down the river by the steamer.

Piottuch, who had fallen asleep on board the steamer, was not aware of the movement for some time after and was considerably put out, as the light wind was northerly and would have suited our old tub well for his return voyage to Ust Zylma. Engel, however, hailed a boat bound for up the river, and Piottuch, with a hurried adieu, went over the side, and we saw him waving his mosquito-net on board the smack. He carries letters from us to Archangel, but we hope to reach home before they do.

We have just missed a good chance of getting furs, etc., from Varandai. The smack which Piottuch returned by, and several others we passed, were bound from Varandai to different towns on the Petchora, laden with the winter's produce of bear-skins, seals, etc., and the owners are usually very wealthy men, who also own numbers of Reindeer. The Captain of the steamer supposed that they must have left Varandai the night before.

Close to the besoms at Stanavoialachta (east of the channel, and therefore upside down), we hailed a schooner, a German, from Rostuck, where Engel comes from, and he was hailed from the deck by his name, Robert.

Just then Captain Taylor sung out, 'We're aground!' (we were just rounding the point of Stanavoialachta, and Seebohm and I were on the paddle-boxes with Engel), but she slipped off, and the idea of ground there was ridiculed. The besoms are set upon large stones, which Engel told us are often very difficult to find, as the current runs strong round the point.

At the bar a message, '10 feet of water only on the bar,' was signalled from the cutter, and we had to lie to and wait for the tide to carry us over. We went aboard the schooner, and Captain Taylor and all hands, including the pilot, assured Engel that she had three times hit *hard* ground at the Stanavoialachta besoms. Engel could only in answer assure them that there was no ground there.

I turned in, and Engel gave us a further tow out until we sighted the beacon at Dvoinik, a little past the furthest light-ship, the first beyond the bar.

All sails were set, and we glided gently on towards the N.E. (N.E. by N.) so as to sight the beacon on the William Bank and join the course given on the chart. The tide rising, the current sets from the westward, so we shall be carried somewhat to south of the William Bank.

August 2.

This was at 6 o'clock a.m. on the morning of Monday, the 2nd of August, and then the Captain turned in and left orders to be wakened at eight, about which time he expects to sight Constantinovka beacon.

A barque, *The Blue Wave*, in company with a schooner,

sent her boat to us, and we found that in tacking we had made but small progress, and were still only off Cape Dvoinik, which we recognised by the description of the wreck of the sloop which the Captain of *The Blue Wave* had seen on his last tack. He was now searching for the lightship (?) and cutter at the bar.

We had to tack out towards the eastward, and our second tack brought us in sight of the wreck of the *Alexie* and the beacon on the bank above, the latter only seen indistinctly, and the former showing for a second or two and again being concealed by the haze.

'Bout ship' to the north; course due north (Engel warned us of the current and told us to steer N.E. by E.). The consequence was that about 6 p.m. we came on 2 fathoms of water, having doubtless drifted quite two points to the westward of the course and got close upon the shoals of the Alexander Bank.

'Bout ship' and again course S.E. and S.E. by E., and thus again into deep water. This brought us up about ten miles east of Cape Constantinovka, as closely as we could judge, and at 8 o'clock p.m. again 'bout ship on a northerly course—N ½ E.' This time we should sight the carabasse (light-ship) on the William Bank and drift into the true course between No. 3 and 4. Being considerably east of our former north course, there is less necessity of steering much east.

We had an excellent dinner off roast goose from Dvoinik, stuffed with pounded biscuit flour and raisins, and potatoes from Bo'ness (Firth of Forth!)

A third tack was still unsuccessful, and brought us back again to the bay east of Cape Constantinovka, so that we were making but slow progress to the eastwards.

Late in the day we sighted at last the Nos. 4 and 3 beacons and the lightship we had been so long trying to sight on the William Bank.

But just as we rejoiced in this, the lad heaving the lead sang out, 'By the mark two' (fathoms), and again we were bewildered.

The course was mid-channel, as marked on the chart, yet it was only 12 feet, and shoaled to the east and deepened to the west, instead of *vice versâ*. The fact was that the chart was utterly unreliable, and the channel most inefficiently laid down.

For weary hours of day and night the ship tacked on and off the shallows trying to run out to the northward.

Then a dead calm followed, suddenly succeeded by a N.W. wind.

We had tacked far south of No. 4 beacon in order to fetch up the deep water, and now our tacks had to be made close up to the wind in order to get out past No. 3 without striking an outlying shoal at the east end.

August 3.

Tuesday, the 3rd of August. It is perhaps in vain to attempt thoroughly to describe the twistings and manœuvres of our ship, the constant and monotonous 'By the mark' so many fathoms of the lad at the lead, or the no small dread we had of running aground—as we often shaved the sandy bottom with only two feet of water under our keel—and the constantly-recurring perplexity caused by an incorrect chart and vague unbusiness-like directions.

Suffice it to say, that we at last got out to the north, having the beacons on our right and left hands.

The men were almost done up with fatigue, and so were the Captain and the old mate, Mr. Bolton, one of the men actually sleeping on his feet; and Seebohm and I did not dream of turning in, so exciting was this hunt for blue water and a deep sounding. The lads had not slept since Saturday morning save for an hour

or two; and Captain Taylor and the mate had only had about 5 hours' sleep between them, the one relieving the other.

Seven o'clock this morning saw us at last clear of the Golaievski Bank and their beacons, and we were rejoicing in being able at last to say adieu to the mouth of the Petchora. (Our work was done and as the sailors sang: '*Ah, the girls are hauling hard at the tow-ropes.*')

But as we sat at breakfast, the mate's coffee half drunk, there was a call on deck and we ran up. A gale was close at hand, and all the crew were dashing about making fast, and hurriedly preparing for it. Thunder had been heard during the day, and now, almost instantaneously a dense black curtain of thunder-cloud hung before us on our course, while white drifting angry clouds floated swiftly past against the black mass, and a water-spout, not half a mile off, lashed the water up as if a hundred mill-stones at once had been cast into the sea.

The wind blew from every quarter, and white squalls whirled over the water, one of which, ere it struck our vessel, we traced to within twenty yards of its side. It struck; the sails clapping fiercely and all in a whirl, but she was ably handled by the Captain at the helm, a prompt and excellent sailor, and all was safe.

Then came a hot air from the eastward and a dead calm, a violent thunderstorm and a downfall of rain. 'All's well,' the Captain said, and added, 'it's a mercy we were not amongst the shoals, but out in true blue water;' and Seebohm and I went below to sleep—9 a.m., but I first wrote up part of my journal, and nearly fell asleep—in fact I nodded—with the pen in my hand while I did so.

Then the Captain came down—it was his watch—and he and I had a drop of rum and water, and then chatted till dinner-time (at 12) about the shoals of the 'Dry Sea'

and our experiences of them, and of *la pauvre compagnie* in general. I then turned in in the cabin and had three hours' sleep.

Our course now is due west, having run to the north-west sufficiently to clear Kolguev by about twenty miles on this course. The wind is light and not felt on deck, while the sails aloft are scarcely drawing. We move quickly through the glassy smooth water, however, at the rate of $2\frac{1}{2}$ to 3 knots an hour.

The silence on deck is a striking contrast to the bustle of the past storm, and to the monotonous 'By the mark, two-o-o' of the Norwegian lad at the lead when amongst the shoals of the channel inside.

Phalaropes were seen, and one flock flew close round us during the storm.

Two large Snowy Owls flew round and alighted on the main-topmast. Seebohm shot one, but it fell overboard and was lost.

Black Scoters were seen flying to the south-west.

August 4.

On Wednesday, the 4th of August, I kept a watch with the Captain till 8 bells, midnight, and then turned in and had seven hours' '*solid*' sleep.

There was thick fog with a steady breeze, and we are slipping along in fine style on a N.W.$\frac{1}{2}$N. course in order to get an offing north of the island of Kolguev, the position, however, of which is not permanently fixed, there being a difference of 12 miles between the Russian and English charts, in longitude. We keep to the north of the island, as the sea is shallow between it and the Timanski coast.

August 5.

On Thursday, the 5th of August, I was confined with a painful sty in the left eye, and Seebohm though not sea-

sick feels himself verging on the debateable land and keeps a horizontal position as much as possible. All our resolves of doing work on board have therefore for the present fallen through.

Our course now is due west, and in the evening we passed about twenty miles to the north of Kolguev, with still misty weather, and at night were opposite the entrance to the White Sea.

Pomarine Skuas were seen close to the ship.

Our speed averaged 4½ knots, and was sometimes as much as 6 knots.

August 6.

On Friday, the 6th of August, our course was W.½N., and not a great distance off the North Cape. Our voyage so far was a very speedy one.

August 7.

On Saturday, the 7th of August, our course was west, and at 12 noon we were far to the west along opposite the coast of Russian Finland, 35° 35′ E. long. and 70° 45′ N. lat. The sun was bright and the sky cloudless, and at 12 the Captain took the necessary observation.

Numbers of whales were seen, probably the large Sibbald's Rorqual, which is the species principally captured on the coast of Russian Finland.

I shot an Arctic Tern just over the top of the mainmast, but it missed the deck by about a foot, falling between the side and the mainsail.

August 8.

From this point our voyage was a tedious tale—much tacking to get round the North Cape against contrary winds, beating down the outside of the Loffoden Isles, of which we had ample opportunity to get a characteristic outline sketch.

The only bird noted was a Fulmar Petrel, which I dropped on deck with a charge of No. 8 shot. This was on the 19th of August, when our position by observation was 69° 6′ N. latitude, 12° 27′ E. longitude, outside the Loffodens; and it was not until Sunday, the 5th of September, that we landed at Elsinore, making our way thence to Copenhagen and Hamburg; and I arrived at home late in the evening of Friday, the 10th of September.

APPENDIX A

Ignati Piottuch's Return Journey.

In March, 1876, I received from Ignati Piottuch an account of his return journey after parting from us on the 1st of August, 1875, from which it will be of interest to give extracts.*

He writes that when he parted from us, about Stanavoialachta, his boat at first travelled pretty quickly, but afterwards the wind failed, and he was obliged to stop 8 versts short of Alexièvka. The mosquitoes here were frightful. At about seven o'clock he again got a boat and finally reached Alexièvka, where he found the workmen already waiting for him. He looked over the specimens left behind, and found that only two were at all fit for preservation; these he skinned, and then left Alexièvka in the boat. He crossed to the north-eastern shore of the Petchora, and reached Bougri [*sic*] in the evening, where they stopped for the night. Here he found a nest of the Grey Plover † with four eggs, and got also the two adult birds, ♂ and ♀. From Bougri to Kuja he had to be on the road a whole day. Here he got a Swan's bill and three eggs. At Chuvinski he again got two bills of the medium-sized Swan, and

* Translated from the Russian by Mr. Carl Craemers for me.

† In his letter he names it Galuetica—evidently thinking of its specific name—*helvetica*.—J. H. B.

two eggs from the large Swan, and killed a small one, and one Little Stint.*

Having reached Habariki, he settled with the workmen, and on the 30th arrived at Ust Zylma, and let the remaining workmen go.

Bouligan would not sell the book we wanted to buy, and on the 1st of August (Old Style) Piottuch left Ust Zylma by a small boat, and on crossing the River Petchora, entered the River Zylma. About 60 versts' distance from its mouth the Zylma has a sandy bottom, and the boat did not touch the ground during the whole course. He there met with Pintail, Teal, Wigeon, Goldeneye, Temminck's Stints, Terék Sandpipers, and Greenshanks.

Further up the river the bottom was stony, and often the boat had to be carried over the same. Here he found many Smews, and Golden Eagles, and Goldeneye Ducks. He also saw several times in the woods White-winged Crossbills, and Great Black Woodpeckers, and great flocks of the Siberian Jay.

Piottuch then entered a very narrow river, the 'Chirka,' and on the ninth day he reached the place 'Volók,' where he procured two men with horses. On one of these carts (something like a sledge) he sat down, and on the other he put his luggage, and then drove pretty quickly away over some marshy ground through a wood. After 7 versts' driving he got to another station, where he changed horses, and then he went over some regular good roads. Although it was a very dark night, he succeeded in killing one Short-eared Owl.

Having again travelled some 7 versts he stopped, and had to go further again in a boat down the River Ratchuga. Along the shores of this river he tolerably often came across some Bear-tracks, and saw some wild Rein-

* Query—On migration?—J. H. B.

deer. Out of the River Ratchuga he went into the River Pëza, and here large meadows were seen. Having gone along that river for about 20 versts, Piottuch observed in the high and thick grass a Reindeer's horns moving very quickly towards his boat. The wind was blowing towards Piottuch; at last the deer came out in a free place about 150 yards distant from him. He fired, and after making about thirty steps more the deer fell dead. Another jumped, and after it he fired again, and also this (a small one) fell. He skinned them, took the flesh in the boat, and went further. The shores were now formed by large meadows, on which he found a great many Yellow-breasted Buntings and Bluethroats; and in the forests, Long-tailed Tit, White-winged Crossbill, and the Common Crossbill; and Ducks were very common.

The voyage on the Pëza was a very quick one, and finished—all but 38 versts—Piottuch's way to the River Mezèn. He sent to a village for horses to go to Mezèn town. The voyage from Ust Zylma to Archangel is 1,364 versts; it occupied twenty-eight days, and on the 28th of August (Old Style) he arrived at Archangel.

Piottuch reported having ready for me one Yellow-headed Wagtail, one Phalarope, one Little Stint, five Swans' bills, two eggs of the large Swan, three eggs and one bill of the medium-sized Swan, and one full nest of the Grey Plover, with ♂ and ♀ —four eggs—which were slightly incubated but were blown very well; he also had a Lynx's head, a Hare's head, an Eagle Owl, a Ural Owl, and a Lapp Owl.

He was allowed to retain the *greater* part of these collections as his own perquisite. What he was allowed to retain included the four eggs of Grey Plover.

APPENDIX B

List of Birds' Eggs collected on the great River Petchora and on the Tundras of Siberia in Europe in 1875. By H. Seebohm and J. A. Harvie-Brown.

The eggs of each set are numbered the same, and the sets are numbered consecutively in the order in which they were originally collected.

Species.	No. of Eggs.	Locality.	Date.
1. **Siberian Jay.** *Perisoreus infaustus*	4 and nest.	Ust Zylma	April 27
2. **Magpie.** *Pica rustica*	7	Ust Zylma	May 12
3. **Magpie.** *Pica rustica*	7	Ust Zylma	May 18
4. **Hooded Crow.** *Corvus cornix* ...	3	Ust Zylma	May 30
5. **Peregrine Falcon.** *Falco peregrinus*	1	? Tundra	May 27
6. **Tree Sparrow.** *Passer montanus*	6	Ust Zylma	June 2
7. **Tree Sparrow.** *Passer montanus*	6	Ust Zylma	June 2
8. **Tree Sparrow.** *Passer montanus*	6	Ust Zylma	June 2
9. **Tree Sparrow.** *Passer montanus*	6	Ust Zylma	June 2
10. **Tree Sparrow.** *Passer montanus*	4	Ust Zylma	June 2
11. **Tree Sparrow.** *Passer montanus*	3	Ust Zylma	June 2
12. **Pintail Duck.** *Dafila acuta* ... Down. ♀ shot from nest.	9	Habarika	June 5
13. **Teal.** *Nettion crecca* ... ... Down.	8	Habarika	June 3
14. **Goldeneye.** *Clangula glaucion*... Down.	14	Habarika	June 3
15. **Teal.** *Nettion crecca*	10	Ust Zylma	June 4
16. **Goldeneye.** *Clangula glaucion*... Taken from ♀ bird	1	Habarika	June 4

Species.	No. of Eggs.	Locality.	Date.
17. **Wigeon.** *Mareca penelope* Down.	5	Habarika	June 5
18. **Redwing.** *Turdus iliacus*	12 odd	Habarika	June 5
19. **Redwing.** *Turdus iliacus*	4	Habarika	June 5
20. **Redwing.** *Turdus iliacus*	4	Habarika	June 5
21. **Redwing.** *Turdus iliacus*	5	Habarika	June 5
22. **Redwing.** *Turdus iliacus*	5	Ust Zylma	June 5
23. **Fieldfare.** *Turdus pilaris*	1	Habarika	June 5
24. **Teal.** *Nettion crecca*	3	Ust Zylma	June 5
25. **Magpie.** *Pica rustica*	6	Ust Zylma	June 5
26. **Oystercatcher.** *Hæmatopus ostralegus*	3	Ust Zylma	June 7
27. **Terék Sandpiper.** *Terekia cinerea*	4	Ust Zylma	June 6
28. **Wigeon.** *Mareca penelope* Down, and bird shot.	6	Habarika	June 9
29. **Pintail.** *Dafila acuta* Down.	6	Habarika	June 9
30. **Wigeon.** *Mareca penelope* Down.	6	Habarika	June 9
31. **Smew.** *Mergus albellus* Down marked A.	8	Habarika	June 10
32. **Pintail.** *Dafila acuta* Down marked B.	6	Habarika	June 10
33. **Pintail.** *Dafila acuta* Down marked C.	9	Habarika	June 10
34. **Wigeon.** *Mareca penelope* Down marked 100.	6	Habarika	June 11
35. **Wigeon.** *Mareca penelope* Down marked 101.	2	Habarika	June 11
36. **Wigeon.** *Mareca penelope* Down marked 102.	7	Habarika	June 11
37. **Wigeon.** *Mareca penelope* Two nests, and down mixed. Down marked 103.	12	Habarika	June 12
38. **Wigeon.** *Mareca penelope* Down marked 104. ♀ shot.	8	Habarika	June 12
39. **Greenshank.** *Totanus glottis*	1	Habarika	June 10
40. **Ruff.** *Machetes pugnax* ♀ shot.	4	Habarika	June 10
41. **Pintail.** *Dafila acuta* Down marked 105.	7	Yorsa	June 12
42. **Wigeon.** *Mareca penelope* Down marked 106.	10	Yorsa	June 12
43. **Pintail.** *Dafila acuta* Down marked 108.	6	Yorsa	

Species.	No. of Eggs.	Locality.	Date.
44. Pintail. *Dafila acuta* ... ... Down marked 107.	8	Yorsa	
45. Oystercatcher. *Hæmatopus ostralegus*	4	Yorsa	June 15
46. Teal. *Nettion crecca*	8	Yorsa	June 12
47. Oystercatcher. *Hæmatopus ostralegus*	2	Yorsa	June 17
48. Common Gull. *Larus canus* ...	3	Yorsa	June 15
49. Black Grouse. *Tetrao tetrix* ...	5	Yorsa	June 12
50. Hooded Crow. *Corvus cornix* ...	1	Habarika	June 10
51 Terék Sandpiper. *Terekia cinerea*	3	Habarika	June 15
52. Arctic Tern. *Sterna macrura* ...	6	Habarika	June 14
53. Willow Grouse. *Lagopus albus*...	7	Alexièvka	June 19
54. Arctic Tern. *Sterna macrura* ...	3	Pustozersk	June 18
55. Redwing. *Turdus iliacus* ...	4	Habarika	June 10
56. Three-toed Woodpecker. *Picoides tridactylus*	1	Chuvinski	June 14
57. Reed Bunting. *Emberiza schœniclus*	6	Kuja	June 19
58. White Wagtail. *Motacilla alba*	4	Abrámoff	June 15
59. Red-necked Phalarope. *Phalaropus hyperboreus*	4	Kuja	June 19
60. Pintail. *Dafila acuta* ... ... Down. ♀ shot.	8	Kuja	June 19
61. Great Snipe. *Gallinago major* ...	3	Kuja	June 19
62. Temminck's Stint. *Tringa temmincki* ... ... ♀ shot.	4	Kuja	June 17
63. Terék Sandpiper. *Terekia cinerea* ♀ shot.	4	Pustozersk	June 18
64. White Wagtail. *Motacilla alba* Bird seen on nest.	6	Alexièvka	June 19
65. Yellow-headed Wagtail. *Motacilla citreola*	5	Alexièvka	June 19
66. Yellow-headed Wagtail. *Motacilla citreola*	5	Alexièvka	June 19
67. Red-throated Pipit. *Anthus cervinus*	3	Alexièvka	June 19
68. Siberian Herring Gull. *Larus cachinnans*	2	Alexièvka	June 19
69. Redpoll. *Linota linaria*... ... Broken.	2	Habarika	June 10
70. Wheatear. *Saxicola œnanthe* ... ♀ caught.	1	Ust Zylma	No date

Species.	No. of Eggs.	Locality.	Date.
71. **Redwing.** *Turdus iliacus* ...	4	Habarika	June 10
72. **Long-tailed Duck.** *Harelda glacialis*	6	Alexièvka Tundra	June 20
73. **Fieldfare.** *Turdus pilaris* ...	5	Alexièvka Tundra	June 15
74. **Fieldfare.** *Turdus pilaris* ...	4	Alexièvka Tundra	June 15
75. **Fieldfare.** *Turdus pilaris* ...	5	Alexièvka Tundra	June 15
76. **Fieldfare.** *Turdus pilaris* ...	5	Habarika	June 10
77. **Redstart.** *Ruticilla phœnicurus*	4	Habarika	June 10
78. **Stonechat.** *Pratincola rubicola* Broken.	?	Habarika	June 10
79. **Reed Bunting.** *Emberiza schœniclus*	4	Yorsa	June 13
80. **Reed Bunting.** *Emberiza schœniclus*	3	Alexièvka	June 19
81. **Wigeon.** *Mareca penelope* ... Down.	8	Alexièvka	June 20
82. **Pintail.** *Dafila acuta* ... ... Down.	6	Alexièvka	June 20
83. **Willow Grouse.** *Lagopus albus*...	3	Alexièvka Tundra	June 20
84. **Wigeon.** *Mareca penelope* ... Down. ♀ shot.	5	Alexièvka	June 20
85. **Red-necked Phalarope.** *Phalaropus hyperboreus*	4	Alexièvka Ostrov	June 20
86. **Bluethroat.** *Cyanecula suecica*...	4	Alexièvka Ostrov	No date
87. **Red-throated Pipit.** *Anthus cervinus*	6	Alexièvka	June 21
88. **Lapland Bunting.** *Calcarius lapponicus*	4	Alexièvka	June 21
89. **Lapland Bunting.** *Calcarius lapponicus*	4	Alexièvka	June 21
90. **Yellow-headed Wagtail.** *Motacilla citreola* ... (Bird shot)...	5	Alexièvka	June 21
91. **Teal.** *Nettion crecca*	7	Alexièvka	June 22
92. **Yellow-headed Wagtail.** *Motacilla citreola*	5	Alexièvka	June 22
93. **Yellow-headed Wagtail.** *Motacilla citreola*	3	Alexièvka	June 22
94. **Yellow-headed Wagtail.** *Motacilla citreola*	6	Alexièvka	June 22
95. **Lapland Bunting.** *Calcarius lapponicus*	5	Alexièvka	June 22
96. **Lapland Bunting.** *Calcarius lapponicus*	3	Alexièvka	June 22
97. **Grey Plover.** *Squatarola helvetica* ♂ shot at nest.	4	Alexièvka Tundra	June 22

Species.	No. of Eggs.	Locality.	Date.
98. **Grey Plover.** *Squatarola helvetica* ♀ shot at nest.	4	Alexièvka Tundra	June 22
99. **Grey Plover.** *Squatarola helvetica* ♀ shot at nest.	2	Alexièvka Tundra	June 22
100. **Grey Plover.** *Squatarola helvetica* One bird shot at nest. The linings of the above four nests have been preserved.	4	Alexièvka Tundra	June 22
101. **Wigeon.** *Mareca penelope* ... Down.	4	Alexièvka	June 22
102. **Pintail.** *Dafila acuta*	7	Alexièvka	June 22
103. **Wigeon.** *Mareca penelope* ...	4	Alexièvka	June 22
104. **Wigeon.** *Mareca penelope* ...	2	Alexièvka	June 22
105. **Great Snipe.** *Gallinago major* ...	4	Alexièvka	June 22
106. **Red-necked Phalarope.** *Phalaropus hyperboreus*	4	Alexièvka	June 21
107. **Dunlin.** *Tringa alpina*	4	Alexièvka Tundra	June 22
108. **Red-necked Phalarope.** *Phalaropus hyperboreus*	4	Alexièvka	June 22
109. **Temminck's Stint.** *Tringa temmincki*	4	Alexièvka	June 22
110. **Mealy Redpoll.** *Linota linaria*...	5	Alexièvka	June 22
111. **Mealy Redpoll.** *Linota linaria*...	5	Alexièvka	June 23
112. **Mealy Redpoll.** *Linota linaria*...	4	Alexièvka	June 23
113. **Lapland Bunting.** *Calcarius lapponicus*	5	Alexièvka Tundra	June 23
114. **Red-throated Pipit.** *Anthus cervinus*	3	Alexièvka Tundra	June 23
115. **Red-throated Pipit.** *Anthus cervinus*	5	Alexièvka Tundra	June 23
116. **Red-throated Pipit.** *Anthus cervinus*	4	Alexièvka Tundra	June 23
117. **Red-throated Pipit.** *Anthus cervinus*	4	Alexièvka Tundra	June 23
118. **Red-throated Pipit.** *Anthus cervinus*	4	Alexièvka Tundra	June 23
119. **Temminck's Stint.** *Tringa temmincki* ... (Bird shot) ...	4	Alexièvka	June 23
120. **Yellow-headed Wagtail.** *Motacilla citreola*	5	Alexièvka	June 24
121. **Yellow-headed Wagtail.** *Motacilla citreola*	5	Alexièvka	June 23
122. **Yellow-headed Wagtail.** *Motacilla citreola*	5	Alexièvka	June 23

Species.	No. of Eggs.	Locality.	Date.
123. **Yellow-headed Wagtail.** *Motacilla citreola*	3	Alexièvka	June 23
124. *Sylvia* ?	6	Alexièvka	June 23
125. **Mealy Redpoll.** *Linota linaria*...	5	Alexièvka	June 23
126. **Temminck's Stint.** *Tringa temmincki*	4	Alexièvka	June 23
127. *Sylvia* ?	2	Alexièvka	June 23
128. **Red-throated Pipit.** *Anthus cervinus*	5	Alexièvka	June 23
129. *Anthus* sp. ?	3	Alexièvka	June 23
130. **Fieldfare.** *Turdus pilaris* ...	5	Alexièvka	June 23
131. **Red-throated Pipit.** *Anthus cervinus*	4	Alexièvka	June 23
132. **Wigeon.** *Mareca penelope* ...	7	Alexièvka	June 23
133. **Wigeon.** *Mareca penelope* ...	5	Alexièvka	No date
134. **Wigeon.** *Mareca penelope* ...	5	Alexièvka	No date
135. **Bean Goose.** *Anser fabalis* (Lath.). Bird snared.	3	Alexièvka Tundra	June 20
136. **Bean Goose.** *Anser fabalis* ... Bird snared.	3	Alexièvka Tundra	June 20
137. **Bean Goose.** *Anser fabalis* ... Bird snared.	4	Alexièvka Tundra	June 20
138. **Bean Goose.** *Anser fabalis* ...	4	Alexièvka Tundra	June 20
139. **Bean Goose.** *Anser fabalis* ...	2	Alexièvka Tundra	June 20
140. **Bean Goose.** *Anser fabalis* ... Bird well seen.	2	Locality and date not given	
141. **Bean Goose.** *Anser fabalis* ... Bird caught.	4	Locality and date not given	
142. **Whooper Swan.** *Cygnus musicus*	3	Kuja	June 19
143. **Reed Bunting.** *Emberiza schœniclus*	6	Alexièvka	June 23
144. **Arctic Tern.** *Sterna macrura* ...	12	Alexièvka	June 20
145. **Bean Goose.** *Anser fabalis* ...	2 odd eggs.	Alexièvka	June 20
146. **Willow Warbler.** *Phylloscopus trochilus*	5	Alexièvka	June 26
147. **Willow Warbler.** *Phylloscopus trochilus*	4	Alexièvka	June 26
148. **Petchora Pipit.** *Anthus gustavi*	5	Alexièvka	June 26
149. **Petchora Pipit.** *Anthus gustavi*	4	Alexièvka	June 26
150 **Wheatear.** *Saxicola œnanthe* ...	7	Stanavoialachta	June 26
151. **Wheatear.** *Saxicola œnanthe* ...	6	Stanavoialachta	June 26
152. **Willow Warbler.** *Phylloscopus trochilus*	4	Alexièvka	June 26
153. **Yellow-headed Wagtail.** *Motacilla citreola*	1	Alexièvka	June 26

Species.	No. of Eggs.	Locality.	Date.
154. **Bluethroat.** *Cyanecula suecica*...	5	Stanavoialachta	June 26
155. **Sedge Warbler.** *Acrocephalus schœnobœnus*	5	Alexièvka	June 26
156. **Temminck's Stint.** *Tringa temmincki*	4	Stanavoialachta	June 26
157. **Golden Plover.** *Charadrius pluvialis* (Bird shot at nest)...	4	Stanavoialachta	June 26
158. **Golden Plover.** *Charadrius pluvialis* (Bird shot at nest) ...	4	Yooshina River	June 25
159. **Black-throated Diver.** *Colymbus arcticus*	2	Stanavoialachta	June 25
160. **Black-throated Diver.** *Colymbus arcticus*	2	Stanavoialachta	June 25
161. **Red-throated Diver.** *Colymbus septentrionalis*	1	Stanavoialachta	June 26
162. **Wigeon.** *Mareca penelope* ...	6	Alexièvka	June 26
163. **Peregrine Falcon.** *Falco peregrinus* ... ♂ shot	3	Stanavoialachta	June 26
164. **Peregrine Falcon.** *Falco peregrinus* ... ♀ shot	4	Stanavoialachta	June 26
165. **Ruff.** *Machetes pugnax*	4	Stanavoialachta	June 26
166. **Temminck's Stint.** *Tringa temmincki*	30	Alexièvka	June 26
167. **Meadow Pipit.** *Anthus pratensis* ♀ bird shot.	6	Stanavoialachta	June 25
168. **Meadow Pipit.** *Anthus pratensis* Bird caught on nest.	6	Stanavoialachta	June 26
169. **Petchora Pipit.** *Anthus gustavi*	5	Alexièvka	June 26
170. **Petchora Pipit.** *Anthus gustavi*	5	Alexièvka	June 26
171. **Ringed Plover.** *Ægialitis hiaticula*	4	Yooshima River	June 24
172. **Red-necked Phalarope.** *Phalaropus hyperboreus* ...	6 ...odd eggs.	Stanavoialachta	June 26
173. **Red-throated Pipit.** *Anthus cervinus*	5	Alexièvka	June 26
174. **Lapland Bunting.** *Calcarius lapponicus*	3	Alexièvka	June 26
175. **Temminck's Stint.** *Tringa temmincki*	9	Alexièvka	June 26
176. **Red-necked Phalarope.** *Phalaropus hyperboreus*	6	Alexièvka	June 26
177. **Bluethroat.** *Cyanecula suecica*	6	Stanavoialachta	June 25
178. **Bluethroat.** *Cyanecula suecica* (nest)	6	Stanavoialachta	June 25

Species.	No. of Eggs.	Locality.	Date.
179. Yellow-headed Wagtail. *Motacilla citreola* (nest)	6	Alexièvka	June 27
180. Red-throated Pipit. *Anthus cervinus*	5	Alexièvka	June 27
181. Red-throated Pipit. *Anthus cervinus* ... ... Not numbered.	2	Alexièvka	June 26
182. Reed Bunting. *Emberiza schœniclus*	5	Alexièvka	June 25
183. Fieldfare. *Turdus pilaris* ...	4	Alexièvka	June 25
184. Wigeon. *Mareca penelope* ... Down. One broken.	6	Alexièvka	June 26
185. Common or Black Scoter. *Œdemia nigra*	7	Alexièvka Tundra	June 26
186. Mealy Redpoll. *Linota linaria* Bird snared.	4	Alexièvka	June 25
187. Siberian Herring Gull. *Larus cachinnans*	4 odd eggs.	Alexièvka	June 25
188. Black Scoter. *Œdemia nigra* ... Down. ♀ shot.	7	Alexièvka Tundra	June 30
189. Wigeon. *Mareca penelope* ... Down.	7	Alexièvka	June 30
190. Black Scoter. *Œdemia nigra*	6	Alexièvka	July 2
191. Scaup. *Æthyia marila*	6	Alexièvka	July 2
192. Wigeon. *Mareca penelope* ... Down.	4	Alexièvka	July 2
193. Wigeon. *Mareca penelope* ... Down.	9	Alexièvka	July 3
194. Shoveller. *Spatula clypeata* ... Scrap of down. Bird seen.	2	Stanavoialachta	June 25
195. Shoveller. *Spatula clypeata* ...	7	Alexièvka	July 3
196. Long-tailed Duck. *Harelda glacialis* ... (Down)	6	Stanavoialachta Tundra	June 27
197. Long-tailed Duck. *Harelda glacialis* ... (Down)	7	Alexièvka Tundra	July 2
198. Wigeon. *Mareca penelope* ... Down. 2 nests.	7	Alexièvka	July 3
199. Scaup. *Æthyia marila* (Down) ...	7	Alexièvka	July 4
200. Black Scoter. *Œdemia nigra* ... Down. ♀ shot.	6	Alexièvka Tundra	July 4
201. Pintail. *Dafila acuta* (Not blown)	5	Alexièvka	July 4
202. Bluethroat. *Cyanecula suecica*...	6	Alexièvka	July ?

Species.	No. of Eggs.	Locality.	Date.
203. **Siberian Chiffchaff.** *Phylloscopus tristis*	7	Alexièvka	July 4
204. **Willow Warbler.** *Phylloscopus trochilus*	6	Alexièvka	July 4
205. **Sedge Warbler.** *Acrocephalus schœnobœnus*	4	Alexièvka	July 4
206. **Red-throated Pipit.** *Anthus cervinus*	5	Alexièvka	July 4
207. **Petchora Pipit.** *Anthus gustavi*	7	Alexièvka	July 3
208. **Velvet Scoter.** *Œdemia fusca* ... Down. ♀ shot.	8	Stanavoialachta Tundra	July 6
209. **Black Scoter.** *Œdemia nigra* (Down)	No number		No date
210. **Wigeon.** *Mareca penelope* (Down)	8	Alexièvka	July 6
211. **Willow Grouse.** *Lagopus albus* ...	12	Yooshina River	June 24
212. **Grey Plover.** *Squatarola helvetica*	3	Alexièvka Tundra	July 4
213. **Red-necked Phalarope.** *Phalaropus hyperboreus*	2	Alexièvka	July 4
(214. (No name)	4	Alexièvka	July 4)
215. **Temminck's Stint.** *Tringa temmincki*	5 odd eggs.	Alexièvka	July 4
216. **Arctic or Richardson's Skua.** *Stercorarius crepidatus* ...	2	Alexièvka Tundra	July 4
217. **Bewick's Swan.** *Cygnus bewicki* With bill, skin, and feet.	2	Stanavoialachta	No date
218. **Whooper Swan.** *Cygnus musicus*	2	Alexièvka	No date
219. **Whooper Swan.** *Cygnus musicus*	4	Alexièvka	July 5
220. **Whooper Swan.** *Cygnus musicus*	1	Alexièvka	No date
221. **Shoveller.** *Spatula clypeata* ...	5	Alexièvka	July 11
222. **Grey Plover.** *Squatarola helvetica*	4	Alexièvka Tundra	June 9
223. **Grey Plover.** *Squatarola helvetica*	3	Alexièvka Tundra	July 9
224. **Red-throated Diver.** *Colymbus septentrionalis*	1	Alexièvka	July 3
225. **Red-necked Phalarope.** *Phalaropus hyperboveus*	4	Alexièvka	July 11
226. **Arctic or Richardson's Skua.** *Stercorarius crepidatus* ...	2	Alexièvka Tundra	
227. **Arctic or Richardson's Skua.** *Stercorarius crepidatus* ...	1	Alexièvka Tundra	
228. **Whooper Swan.** *Cygnus musicus*	3	Alexièvka Tundra	
229. **Whooper Swan.** *Cygnus musicus*	No number.	Alexièvka Ostrov	
230. **Little Stint.** *Tringa minuta* ... Bird shot.	4	Dvoinik	July 22
231. **Little Stint.** *Tringa minuta* ... Bird shot.	4	Dvoinik	July 23

Species.	No. of Eggs.	Locality.	Date.
232. Little Stint. *Tringa minuta* ... Bird shot.	4	Dvoinik	July 23
233. Long-tailed Duck. *Harelda glacialis* ... (Down)	5 (Eaten).	Dvoinik	
234. Long-tailed Duck. *Harelda glacialis* ... (Down)	3 (Eaten).	Dvoinik	
235. Little Stint. *Tringa minuta* ...	4	Dvoinik	July 27
236. Little Stint. *Tringa minuta* ...	4	Dvoinik	July 27
237. Black-throated Diver. *Colymbus arcticus* ... (Bird well seen)...	1	Dvoinik	No date
238. Black-throated Diver. *Colymbus arcticus*	2	Dvoinik	
Total	1,140		

The eggs of *Tringa minuta* are in such a dilapidated state that I dare not even examine them or touch them. 13th December, 1875. J. A. H. B. (I have 9.)

Note.—The following are the eggs of the Grey Plover which were figured for the "Ibis," 1876:—
97. No. 4. 222. No. 3. 100. No. 4. 223. No. 1.

SUMMARY.

Note.—Of all the ducks' eggs, we have also the down belonging to each set. Of the Grey Plover, we have also broken eggs and fragments of eggs from which we hatched out the young.

Species.	Sets or Nests.	Eggs.
Redwing. *Turdus iliacus*	7	38
Fieldfare. *T. pilaris*	7	29
Wheatear. *Saxicola œnanthe*	3	14
Redstart. *Ruticilla phœnicurus*	1	4
Bluethroat. *Cyanecula suecica*	5	27
Siberian Chiffchaff. *Phylloscopus tristis*	1	6
White Wagtail. *Motacilla alba*	2	10
Yellow-headed Wagtail. *M. citreola*	10	44
Red-throated Pipit. *Anthus cervinus*	11	44
Tree Sparrow. *Passer montanus*	6	31
Mealy Redpoll. *Linota linaria*	6	25
Reed Bunting. *Emberiza schœniclus*	5	24
Lapland Bunting. *Calcarius lapponicus*	5	21
Siberian Jay. *Perisoreus infaustus*	1	4

Species.	Sets or Nests.	Eggs.
Magpie. *Pica rustica*	3	20
Hooded Crow. *Corvus cornix*	2	4
Three-toed Woodpecker. *Picoides tridactylus* ...	1	1
Peregrine Falcon. *Falco peregrinus*	3	8
Bean Goose. *Anser fabalis*	8	24
Whooper Swan. *Cygnus musicus*	5	10
Bewick's Swan. *C. bewicki*	1	2
Shoveller. *Spatula clypeata*	3	14
Teal. *Nettion crecca*	5	36
Pintail. *Dafila acuta*	10	71
Wigeon. *Mareca penelope*	25	149
Scaup. *Æthyia marila*	3	19
Goldeneye. *Clangula glaucion*	2	15
Long-tailed Duck. *Harelda glacialis*	3	19
Velvet Scoter. *Œdemia fusca*	1	8
Black or Common Scoter. *Œ. nigra*	4	30
Smew. *Mergus albellus*	1	8
Willow Grouse. *Lagopus albus*	3	22
Black Grouse. *Tetrao tetrix*	1	5
Golden Plover. *Charadrius pluvialis*	2	8
Grey Plover. *Squatarola helvetica*	8	28
Ringed Plover. *Ægialitis hiaticula*	2	8
Oystercatcher. *Hæmatopus ostralegus*	3	9
Red-necked Phalarope. *Phalaropus hyperboreus* ...	?	34
Great or Double Snipe. *Gallinago major*	2	7
Little Stint. *Tringa minuta*	4	20
Temminck's Stint. *T. temmincki*	?	64
Ruff. *Machetes pugnax*	2	8
Wood Sandpiper. *Totanus glareola*	1	4
Terék Sandpiper. *Terekia cinerea*	2	7
Arctic Tern. *Sterna macrura*	?	21
Common Gull. *Larus canus*	1	3
Siberian Herring Gull. *Larus cachinnans*	3	6
Red-throated Diver. *Colymbus septentrionalis* ...	1	1
Black-throated Diver. *Colymbus arcticus*	4	7
		1,021

And we had a list of 1,019 skins of birds. So both Piottuch and we fulfilled our bargains towards one another.

SAMOYÈDE MAN AND WOMAN.

To face page 491.

APPENDIX C

Analysis of Results of Collectors' List of Birds obtained in Russia—principally East of the Petchora—in the Year 1875, by Henry Seebohm and J. A. Harvie-Brown.

There may be something to learn even from a bare list of specimens carefully collected, such as we claim ours to have been.

The term of our collecting excursion in 1875 extended between the 27th of March and the 30th of July.

The first portion was occupied by winter collecting at Archangel and along our route to Umskaia, between the date of our arrival at Archangel—say March 17th—and our reaching Ust Zylma, on 15th of April, and including a day's return visit to Umskaia on 24th of April.

The next portion may be held as entirely relating to collecting at Ust Zylma and Habarika, on the Petchora, between the 17th of April and the date of our leaving upon our further boat-journey down the great river, *i.e.*, the date of our departure, on the 10th of June, after which time, in our List, the names *Ust Zylma* and *Habarika disappear.* This may be held as representing partly the winter fauna, and taking in the main portion of the spring migration, and brought us to No. 400 of our list.

The third section includes our collecting on our descent of the Petchora between the 10th of June, as above, and

our arrival at Alexièvka, on the river Delta, which is indicated in our list by the first specimen preserved upon the 17th of June, viz., a Siberian Chiffchaff—No. 549 of our List.

A fourth and fifth portion was our remaining time spent in the delta and upon the Tundras, inclusive of a visit to the Outer Banks of the Gulf of Petchora, and two visits to Dvoinik, bringing us to the 30th of July and to the close of our season. During the whole time we collected or preserved 1,019 birds, inclusive of young specimens.

Of these— 819 were adults
and 200 were young—

at present I leave out the latter in my analysis.

This gives in all 819 adults to consider—*i.e.*, of *all species* met with—and excluding some 29 specimens, the sex of which does not appear to have been ascertained, leaving in all for consideration, 790 specimens of adults.

Of these 790 adults—	578	were ♂ s
and	212	,, ♀ s
	790	

Now, of the above total, a proportion collected up to the date of leaving Ust Zylma, and representing *resident* and *migratory* species, within the dates 27th of March and 10th of June, I find we collected and ascertained the sex in the proportion of 213 ♂ s to 111 ♀ s. No birds had in this time been found nesting, if we except *one pair* of Ravens (*juv.* obtained, No. 342, June 2nd, at Ust Zylma); *one juv.* of Siberian Jays (*juv.* obtained, No. 343, also on June 2nd); another of the same, two days after, June 4th; and a nest of eggs of Magpie (Ust Zylma, 27th of April), and ♂ shot.

This brings us in the List to about the 400th skin in the

Petchora List—to the 447th if we include those got to the west of the great river.

If it be desirable here to separate what we came clearly to look upon as residents, these may be held to be the following species, but the specimens of those which we obtained are scarcely numerous enough to make it worth while to leave them out in this analysis.

What may be therefore looked upon as present all the time we were in Russia were as follows :—

1. Redpoll (*Linota linaria*)
2. Northern Marsh Tit
3. Northern Bullfinch
4. Lesser-spotted Woodpecker
5. Siberian Jay
6. Great-spotted Woodpecker
7. Tree Sparrow
8. Hooded Crow
9. Yellowhammer
10. Magpie
11. Capercaillie
12. Jackdaw
13. Three-toed Woodpecker
14. Pine Grosbeak (?)
15. Raven
16. Siberian Tit
17. Redpoll (*L. exilipes*)
18. Willow Grouse
19. Hazel Grouse

All of the above are written down in the order of the entries in the List.

Some, however, may be looked upon as locally migratory, *i.e.*, shifting ground to north or to south day by day, as local severity of weather, or recurrences of frost and snow, and climatic conditions generally, influenced them —which phenomena we had abundant opportunities of clearly observing. Amongst these latter species I may instance the *Northern Bullfinch*, which we became aware of as a 'drifting quantity,' *i.e.*, flying to and fro over a limited area in the early days, or weeks, of our experiences at Umskaia and Ust Zylma, before the regular migratory season began.

The Tree Sparrow seemed restless in some degree, but

found apparently enough food in the seeds, amongst the manure in the villages and station-houses, all along the route where it was found between Mezèn in the west, and Ust Zylma in the east. (The House Sparrow, on the other hand, seemed absent at first from Ust Zylma.)

The Redpoll was also a restless species, yet could scarcely be said to exhibit migratory tendencies.

The Hooded Crow was apparently partly migratory (?).

The Jackdaw we saw at Mezèn early in the season, but not till later at Ust Zylma. We were assured it 'resided at Mezèn most of the winter, although its first advent there was only in recent years.'

The Yellowhammer was scarce, but apparently resident. Our first dated, however, 22nd of April—a ♂—at Ust Zylma.

Taking now Snow Buntings, of which we collected a very extensive series, the sex of most of which was carefully ascertained, I find we had the proportion of 48 ♂s to 29 ♀s. These were entirely obtained prior to the date of our leaving Ust Zylma, and we did not meet with any again until we found a few pairs at their nesting haunts, 380 miles further to the north, at Dvoinik, in July. Besides those we preserved, we saw many more, and many were utilised as food.

But the disparity must not be laid great stress upon in our analysis, because we naturally desired to preserve as many females as males, and *vice versâ*. But we did find the proportion was in favour of the ♂s, and to be considerable, and constantly remarked upon the fact, even when they were shot or snared out of enormous flocks. Of course the males were quite the more conspicuous.

Taking now a truly migratory species as more representative—the Shore Lark—I find we got our *first* upon the 10th of May, and continued to get a few onward till the 21st. In that time we preserved 25 males and 11

females, and we met with no more after the 21st till we found them at their nesting grounds, 300 miles further north.

The passage thus appeared to occupy a very short space of time at Ust Zylma—only some ten days—the ♂s bulking commonly between the 10th and 15th, followed by the ♀s, mostly between the 15th and 21st.

The Lapland Buntings' migration was somewhat similar. None were seen till the 18th of May, and then they came in fair numbers. Between the 18th of May and 27th, we accounted for 12 males and 5 females.

The Meadow Pipit put in an appearance on the

20th of May—	♂ and ♀	2 males
22nd ,,	♂	4 females
23rd ,,	♀ ♀ ♀	

The first Red-throated Pipit were a little later than the last, the first having been seen on the 23rd; but they were not numerous till the 26th, when we got 10 ♂s and only 1 ♀, and we saw little more of them till we reached the Tundra.

I need not pursue the subject in detail with all the other species met with, though this could easily be done on the same lines. Suffice it to say, the same, or nearly the same, proportions of males to females was generally exhibited by species passing Ust Zylma; and even by the end of our season and into the breeding time, we found difficulty in making up our completer sets of females. Discrepancy, however, in the nesting season cannot be looked upon as important, but rather occasioned by the greater secretiveness of the females whilst engaged in laying and brooding.

I might follow the analysis even into our voyage down the river and instance similar features amongst such species as *Budytes citreolus* and *Motacilla flava*,

Cyanecula suecica, *Saxicolæ*, *Sylviadæ*, and other true migrants.

The disparity, however, was less observable—or less noticed?—amongst the Waders and Anatidæ. Such was to be expected, as opportunities did not occur so frequently. Though many thousands of ducks passed north, we could not find that we could obtain materials for comparing the relative numbers of males and females. We found Wigeon and Pintails already building abundantly immediately after leaving Ust Zylma, so closely did such nesting operations follow upon their arrivals.

J. A. H. B.

APPENDIX D

The Samoyèdes.

Concerning the Samoyèdes, we received information from Captain Robert Engel and from Herr Leopold W. Arendt, Mr. Sidóroff's present manager (in place of Mr. Matheson, the former manager, who has lately left). As before mentioned, the Captain has seen a good deal of the Samoyèdes and lived in their tents, and has also travelled with reindeer on the tundras, and has met many Samoyèdes at Habarika, where the steamer winters, at Alexièvsky, 25 versts north from Kuja, where the vessels load, and on the coast and tundra between Kuja and Varandai.

Herr L. W. Arendt, who was here for some years under the former manager, has also had opportunity of seeing the Samoyèdes often, but, perhaps, has not mingled with them so frequently as the Captain has.

We were told that nearer to the mouth of the Petchora the Samoyèdes have not mingled so much with the Russians in the larger towns and villages as those at Habarika have, and that accordingly, they value money less and barter more, whereas those in more constant proximity to the larger towns prefer money wherewith to purchase vodky.

Both Captain Engel and Herr Arendt assure us that the Samoyèdes are a good-natured, amiable people, and

by no means so stupid as has been considered. Many, indeed, are extremely sharp and clever, even amongst the pure race, or those who have *not intermarried* with the Russians.

But when a Samoyède gets vodky he becomes in measure mad and very dangerous, and will kill a Russian or others of a different race whilst under the influence of it. We are strongly advised not to give them any spirit, even in small quantities, as a very little affects them.

They are most afraid of a revolver or fire-arms, but are also put 'in terrorem' by using the word 'Imperátor' and producing a printed or written paper, and making them understand that one is under the protection of Government. (The Government by fear, not love!)

They intermarry freely with Russians, and at Ijma there is a rich Samoyède with Russian blood in his veins, personally known to Captain Engel, who owns 10,000 reindeer, and who drinks out of silver cups (?)

It is not the case that when under the influence of liquor they cut or maim themselves.

The Samoyèdes on the Tundra east of Petchora, as observed by Captain Engel himself, appear to have great facility, like most savages, in finding their way by natural signs, known only to themselves, from place to place. The Captain on one occasion, when travelling with Samoyèdes over the snow-covered tundra, observed the head Samoyède of the party stoop down, after scraping the snow away with his feet, and pluck a piece of moss or grass and examine it. Then he immediately turned his reindeers' heads and proceeded in a course at right angles to their former one.

They are accustomed to read the stars also, but Captain Engel could not say how, or whether or not they acquired their knowledge from intercourse with other people.

The hair of the head becomes grey with age. Herr

Arendt says, however, that when the men become old and feeble they call their families together, tell them they are no longer able to work and support themselves, and then, at their own request, the other members of the family put them to death, using an axe for the purpose. They seem to reach to a good age, however, as Captain Engel has often seen women with grey hair—or is it just possible that they show signs of decay at an earlier stage of existence than people of other nations do ?

Women of pure Samoyède blood often have no hair except upon the head. The women have little pain in childbirth, or of very short duration, and go about their usual work the same day. No obstetrical instruments are known to be in use. As with other nations, some mothers have plenty of milk and others have less. They marry and have children often at fourteen years of age.

Captain Engel graphically described the lassooing of the reindeer from the midst of a large herd. He says that after one or more are chosen to be killed, the Samoyède casts his noose with an underhand and side motion, as I understood his imitation of it, over the deer's horns, and gives a sudden jerk, pulling the deer down, and at the same time throwing himself flat, or being pulled down in turn by the deer. The Samoyède then approaches the deer, still himself lying on his stomach, hand over hand and keeping the rope taut, and kills the deer by the expert use of the knife, drawn across its throat or plunged into its chest. Sometimes they disdain the use of a knife at all, and by sheer exertion of strength, or by some particular expertness in the method, twist down its head and break its neck.

Sometimes there is great mortality amongst the herds of deer, and as many as 33 per cent. die. We have not as yet learned the exact nature of the disease.

In driving the reindeer in sledges, only a single rein is

used for three or four or more deer, and that on the left side, where the leading deer is always harnessed. If it be desired to make the deer go to the right the rein is struck against the left side of the leading deer, and if to the left, the rein is pulled or jerked towards the driver once or more times. A long pole is also carried, and used either as a spikeless goad, or to hit them with on the hind quarters.

The reindeer of the different herds are known to their owners by certain 'lug-marks.'

The harness is so arranged by a simple sliding through perforated pieces of bone, so that the deer must pull equally; otherwise the hind quarters of the lazy deer come against the sledge.

Two bent pieces of bone lie over the forehead and down the side of the head, to which the rein is attached, and, passing along the deer's side, rests in a support of bone (which is sometimes neatly carved, and which is attached to the belt which encircles the chest), and is thus prevented from getting entangled amongst the deer's feet. The harness is attached to a collar of reindeer leather with the fur on, and passes between the chest band and the body and between the hind-legs of the deer.

The driver sits on the left, or near side, of the sledge, sideways, with his feet swinging above the runner.

In summer, when the tundras are impassable for horses and men on foot, reindeer can pass over them lightly and safely, owing to the immense spread of the hoofs.

In summer the Samoyèdes stay much in their tents, making the various appliances required for their necessities of life, such as bone-fixings for the harness, clothes, etc.

In winter they come down to the towns to barter or buy food and vodky, but many of the poorer ones who possess no reindeer stay in the towns all summer and act as servants or earn their living by begging.

The Zyriani at Ijma employ them as herds for their deer and live in their chooms, and the Russians at Pustozersk also engage their services.

On the other hand, some Samoyèdes live in the Russian houses and adopt the customs of the latter. Some of the Samoyèdes themselves are very wealthy, reindeer constituting their wealth.

Their dogs are very clever in herding or driving their deer.

When drunk, a Samoyède calling for assistance from his fellows, even when they are quite sober, always receives prompt assistance against strangers.

Marriage is preceded by betrothal, which lasts a year, during which time the parties live together, and if they are fond of one another they marry for life. Several families often live in one 'choom,' and the marriage tie is not much respected. Some have more wives than one.

The race is considered as dying out.

Captain Engel called—having returned from Ijma—and in the course of conversation we obtained further information about the—

Samoyèdes.—He laughed heartily at the story about the old men being put to death. It is nonsense, he said, because there are many Samoyèdes both blind and decrepit from age. These pay their keep—or board—in the family to which they belong.

Regarding the reindeer, he further told us that the bulls are called 'Horra,' the geld-males, 'Būch,' and the cows, 'Nashinka.' When gathering the herd together for the purpose of selecting for killing, the dogs are sent out for the herd, which may be two or three versts distant from the 'choom,' and in an hour or so they are brought close up. They are then driven into an enclosure formed by the sledges, which they won't jump over, and surrounded with a rope, and then the lassoing

begins. Often in lassoing, a strong and expert Samoyède does it so adroitly that he encircles both the horns and fore-legs at the same time, then by a violent, powerful backward jerk, throws the animal full upon its chest and kills it instantly. This we should like to see done, and may have an opportunity when we go down to Habarika.*

Afterwards we went out with the Captain, and examined some reindeer in the town at the house of a rich Russian, who was illicitly selling brandy to the Samoyèdes. To our astonishment and disgust, the Captain suddenly seized hold of a reindeer, and after squeezing and feeling amongst the beast's hair, produced a disgusting-looking maggot nearly an inch long, which burrows under the skin and feeds upon the poor brute's flesh. The Captain assured us that these loathsome maggots grow, under the skin, to the size of about three inches, showing us the length on his hand. Sometimes the deer succumb to their attacks and die, the flesh being eaten away and their systems becoming affected. The presence of the abomination is often however local, and whilst every animal in one herd—of say two hundred is—affected, those in another are perfectly free of it. Of the above-mentioned maggots we obtained specimens, and put them in spirits.

The disease of which the reindeer die in hundreds, appears to me, from the description, closely to resemble what, in sheep in Scotland, is called 'sturdy.' Suddenly the animals totter and fall, or first run round in a circle, sometimes getting on their backs with legs in the air. 'Sturdy' in sheep is, I believe, a determination of water to the head. We were assured that one person who owned 7,000 reindeer lost all but a thousand.

* We did go down (see *infra*).

About half-past three p.m. Captain Engel and the Engineer accompanied us on a visit to some Samoyèdes who had erected their chooms about three and a a half versts from Habarika. We arrived rather too late to see the 'chooms,' as they had been taken up and packed on sledges preparatory to making another camp nearer to Habarika.

We saw, however, all the deer, about five hundred head — a sight, indeed, alone worth our journey — as they galloped and plunged in a wide circle round the former site of the encampment. It was in vain, however, that I searched for fine antlers, as the herd principally consisted of 'bück' (German pronunciation) or cut deer and hinds, or nashinke, and the 'horre,' or entire animals, had dropped their antlers. Some of the hinds had also handsome antlers, but none fine enough to tempt me to purchase a whole animal for their sake, as the price asked at present, when they are with young, is greater.

We bought from the two brothers to whom the camp belonged a number of articles cut in bone, which I will mention again when I come to describe the chooms, sledges, harness, etc.

We then followed the migration part of the way to the next encampment, and watched the agile brothers lassoing some fifty reindeer which belonged to a Russian, and which were about to be removed elsewhere.

The place chosen for the purpose, apparently with some regard to its special suitability, was about halfway between the site of their former camp and the site of their new one, as we afterwards discovered.

We got upon the rising ground, a ridge between two open meadows of circular form, surrounded by willow bushes, which latter also were scattered along below our point of vantage, and we had a good view of the proceedings.

First the long line of sledges filed round and took up a position at the base of the ridge below where we were standing. When we arrived, several dogs were already taking active part in enclosing the deer as they galloped in a wide circle round the sledges, bolted across the ridge, and again herded together in the other meadow, following wherever the leading deer went, and seldom breaking outside the charmed circle. If one or two deer attempted to go off to the adjoining woods, the others then seemed unwilling to follow, and the delinquents were soon herded back by the dogs, all the more easily, perhaps, that they were unwilling really to leave their fellows and venture alone into the desert of forest and tundra.

Here let me, *en passant*, take note of the Samoyèdes' dogs, second in value only to their reindeer. All we saw to-day were white except one, which was quite black. This latter appeared to belong to the sledge of the elder brother, as it was tied to it, and seemed ill to brook the restraint. Several of the others were also tied up, and were, doubtless, the young and inexperienced 'doggies,' not yet considered of mature enough age to join in the herding of the deer. The white dogs were all alike in appearance—colour, dirty white; hair, long and foxy; tail, curled upwards and drooping again over to one side; face, foxy; temper, apparently good, but they are also apparently plucky if roused. I saw one at Habarika soon drive off and punish an interloping Russian 'doggie,' but this may, of course, be no proof of the bravery of the whole race, though where a breed seems so unmixed an accidental observation of this kind may be of more value.

Dogs are seen in the Russian villages which have every appearance of being crosses, and doubtless are so, but at these chooms there were only the white and the above-mentioned single black one, which, save in colour, in every way resembled the others. Finally, both Seebohm

and I were struck with the general strong resemblance in them to the so-called Pomeranians. And this seems to me to make way for a possibility in regard to Erman's statement. If, as Erman says ('Travels in Siberia,' p. 12), that the inhabitants—Samaïtes—of a certain district in Pomerania — viz., Samagitia — are to be reckoned 'among the branches of the widely-spread Finnish race' the above-mentioned striking resemblance between the Samoyède dogs and the so-called Pomeranian breed is worthy of note. Again, they resemble the Eskimó dogs, which, however, are, I believe, most usually black. A bitch and three puppies which I saw in 1872 in the Zoological Gardens at St. Petersbourg, and which were true Eskimó dogs, were of this uniform black colour. So much, then, for the dogs. Let us return to our muttons, or venison.

We arrived in good time to see the lassoing. The two brothers were the principal performers, and a third Samoyède also assisted, while the Russian owner came in and bound the legs and assisted in throwing the deer over on their sides, doing this, however, in a different fashion from the Samoyèdes, and sometimes requiring the assistance of the latter.

The lassoer took a coil of the lasso, which is about a hundred feet in length, in his left hand, and the larger coil in his right, and was driven in his sledge after the herd of deer. On approaching near to them he jumped off the sledge and ran to intercept them as they passed, and singling out an animal, known by the marks of proprietorship on the sides, but more generally on the ears, he cast the noose and coil from his right hand with an underhand throw (most resembling a jerky round-hand ball in cricket), and generally at the first attempt lassoed the deer by the horns, or, when they were hornless, round the hind-legs. Sometimes the hornless deer

escaped, springing right through the open noose. With a quick jerk with the right hand in a direction upward and over his head, he fixed the noose, and to give himself greater power over the struggling animal, he rapidly jerked back his left hand behind the hip, and brought the weight of his body to bear, and the main strain of the rope upon his hip and side. Sometimes, though the lasso is still thrown with the right hand, the *right* hand with the same motion seizes the lasso again and is jerked back behind the *right* hip. The deer now faces round, plants his fore-feet in the snow, lowers his head, and struggles, pulling with all his strength and swinging the head from side to side. The lassoer now approaches hand over hand, and when the deer is strong sometimes requires assistance, which was often given by the Russian owner, who was also very active. Getting close up to the deer a Samoyède seizes him by one horn, the left hand up and the right down generally, and by knack or sheer strength throws the deer on his side. The Russian did not appear to be up to this, and generally approached the deer from the side, seized the feet, and shoved the deer over.

Once down the deer did not struggle much, and the Samoyède actively sprang from the head and sat or knelt upon its side, while the Russian seized the fore and hind legs, placed them across and as nearly parallel as possible, and lashed them together with three-plaited strands of bass-matting, which he carried slung in the belt of his 'màlitza.' The deer now either lay helpless or struggled for a few seconds; some succeeded in reaching a kneeling position upon the free knee, and one even succeeded in moving for some distance, owing, doubtless, to the lashing having got loose. After reaching the kneeling position they seem unwilling to go down on their sides again, and remain kneeling for some length of time.

We also observed, what has been noted by Erman and other travellers, the fondness which reindeer have for salt, and the greediness with which they approached, when any of us had occasion to make water, and ate the snow upon which it fell.

In a very short time after the lassoing began there were more than a dozen deer lying helplessly on their sides.

We stayed more than an hour watching the operations, and then joined our sledges and drove back to Habarika.

On Friday, the 30th of April, although Captain Engel had to return last night to Ust Zylma, we remained, in order to visit the 'chooms,' which are now close to Habarika. On arriving at the camp we found twenty-three sledges and two 'chooms' situated close to a running stream in a circular glade surrounded by slightly rising ground covered with willows. The sledges stood together, one behind the next, in four or five rows a few yards apart, in most instances with parts of the reindeer harness attached.

The travelling sledges are of the lightest possible construction, and are beautifully made, though they do not convey to the mind an idea of great strength, as the runners are attached to the body of the sledge by sloping spars, and in order to prevent capsizing they are wider apart than the body of the sledge is. The outward pressure and stress upon the sloping supports must be considerable, yet we have seen them carrying three heavy persons. There are generally four spars on each side, sometimes only three.

The baggage sledges have fewer supports, but are much heavier and stronger, and the spars or supports are more upright. The heaviest baggage appears to be always placed on those sledges with only two spars on each side, and the lighter baggage on those with three spars.

Some of the sledges carry barrels of reindeer meat, which are supported upon two strong parallel spars, or 'gauntreys.' Others have little house-like boxes — Russian-made—which fit exactly on the sledges, the ends resting on the cross-bars of the sledges at the back and front, and these cross-bars being placed lower down than in the other sledges. These Noah's-ark-like boxes have the lid in the centre of the side of the roof, and they contain meat, bread, ropes, lassos, crosses, and sundries. The still lighter baggage is simply bound on the top of the lighter sledges. These articles consist of reindeer skins, horns, màlitzas and clothing, bundles of sinews, grass matting, etc., and these are sometimes covered over with sheets of birch-bark sewn together with sinew, but often with reindeer skins. The chooms and all their belongings are carried upon two other sledges.

When the reindeer are away feeding, and they are often several versts away from the site of the encampment, the harness is left attached to or laid upon the sledges.

The bone parts of the harness, all of which we succeeded in purchasing, are as follows, with description of the rest :—

Fig. 1.—*Halter pieces*, to which halter the single rein is attached with a swivel (Fig. 2), and to which in the other deer the connecting bridles are attached at one end, the other ends of the bridles being fixed to the saddles on the left sides of the three leading deer—supposing four deer to be used. This plan of harnessing the head of the second deer to the centre of the side of the first, gives the latter the lead by about a foot or, say, a head, and the fourth deer will thus be three feet, or three heads, behind the first. The rein is then passed along the left side of the leading deer and rests in a nicked piece of bone attached to the side of the saddle, which we will name the rein-rest (Figs. 3, 4, 5 and 6), which is often neatly

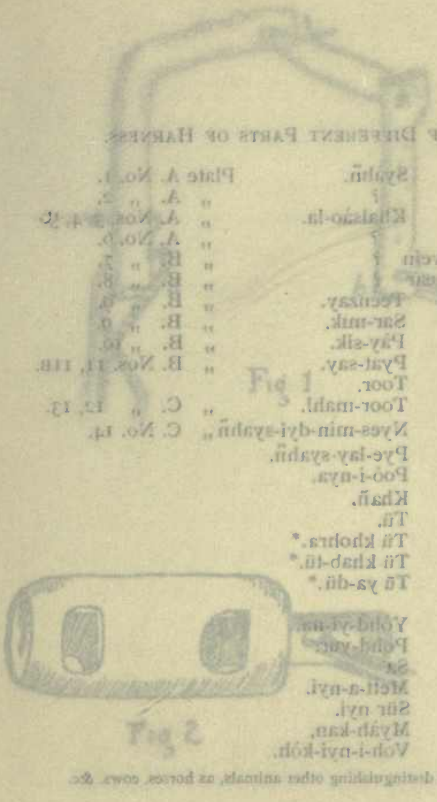

Fig 1

Fig 2

Fig 3

Fig 4

Fig 5

Samoyede Names of Different Parts of Harness.

Halter or bridle	Syuñ.	Plate A. No. 1.
Swivel	?	„ A. „ 2.
Rein-rest	Khiasio-la.	„ A. Nos. 3, 4, 5.
?	?	„ A. No. 6.
Flat bone protecting jugular vein	?	„ B. „ 1.
Heart bone placed in front of ear	?	„ B. „ 2.
Lasso (part of)	Tecinzay.	„ B. „ 3.
Lasso-noose	Sar-nuk.	„ B. „ 9.
Saddle-button or peg	Pay-sik.	„ B. „ 10.
Trace-runner	Pyat-say.	„ B. Nos. 11, 11B.
Pole	Toor.	
Pole-button	Toor-mañ.	„ C. „ 12, 13.
Bridle of leading deer	Nyes-min-dyi-syañ.	„ C. No. 14.
Bridle of the other deer	Pye-lay-syañ.	
Leading bridle-rein	Poo-i-nya.	
Sledge	Khañ.	
Reindeer	Ti.	
Entire stag	Ti Khobra.*	
Cut stag	Ti Khab-ti.*	
Hind	Ti ya-dñ.*	
Calf		
Saddle	Yohd-yi-na.	
Collar	Pohd-yee.	
Trace	Sa.	
Rein	Meñ-a-nyi.	
Swivel	Sur nyi.	
Chosen	Nyah-kan.	
Dog	Voh-i-nyi-koh.	

* These adjectives are used also for distinguishing other animals, as horses, cows, &c.

The following Rules for Spelling Russian and Samoyede Words phonetically will be found useful.

ee long e as in *feet*.
ay „ a „ *fate*.
ah broad a as in *father*.
au long aw „ *maw* or *all*.
oh „ o „ *pole*.
oo „ oo „ *pool*.
oo short oo „ *foot*.
i „ i „ *ill*.
e „ e „ *sell*.
a „ a „ *fat*.
o „ o „ *not*.
u „ u „ *nut*.
u long French eu as in *Aeu*.
ll guttural ll (Welsh) as in *Llangollen*.
kh „ h as in *Khoh-i-noor*.
ch „ tch „ *church*.
k is hard c.
s is soft c.

Samoyède Names of Different Parts of Harness.

Halter or bridle	Syàhñ.	Plate A. No. 1.
Swivel	?	„ A. „ 2.
Rein-rest	Khalsào-la.	„ A. Nos. 3, 4, 5.
	?	„ A. No. 6.
Flat bone protecting jugular vein	?	„ B. „ 7.
Bent bone placed in front of ear	?	„ B. „ 8.
Lasso (part of)	Teènzay.	„ B. „ 9.
Lasso-noose	Sar-mik.	„ B. „ 9.
Saddle-button or peg	Pày-sik.	„ B. „ 10.
Trace-runner	Pyat-say.	„ B. Nos. 11, 11B.
Pole	Toor.	
Pole-button	Toor-mahl.	„ C. „ 12, 13.
Bridle of leading deer	Nyes-min-dyi-syahñ	„ C. No. 14.
Bridle of the other deer	Pye-lay-syahñ.	
Leading bridle-rein	Poò-i-nya.	
Sledge	Khañ.	
Reindeer	Tü.	
Entire stag	Tü khohra.*	
Cut stag	Tü khab-tü.*	
Hind	Tū ya-dü.*	
Calf		
Saddle	Yòhd-yi-na.	
Collar	Pohd-yur.	
Trace	Sa	
Rein	Mett-a-nyi.	
Swivel	Sür nyi.	
Choom	Myàh-kan.	
Dog	Voh-ì-nyi-kòh.	

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The following Rules for Spelling Russian and Samoyède Words Phonetically will be found useful.

ee long e as in *feet.*
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kh „ h as in *Khoh-i-noor.*
ch „ tch „ *church.*
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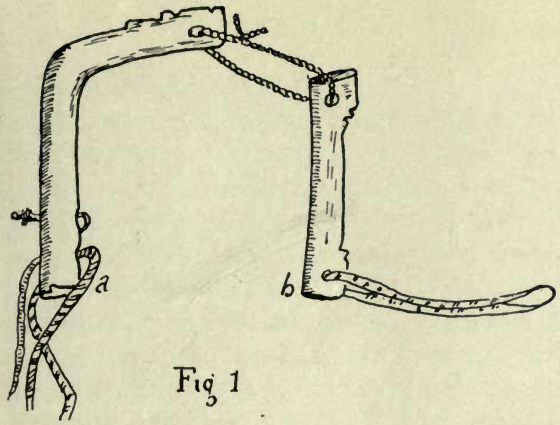

Fig 1

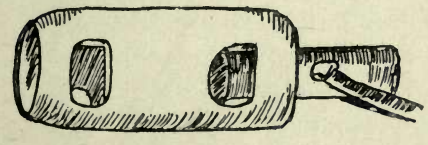

Fig 2

Fig 3

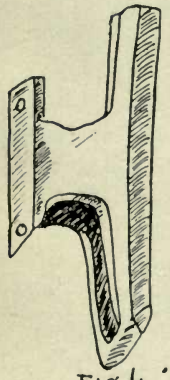

Fig 4

Fig 5

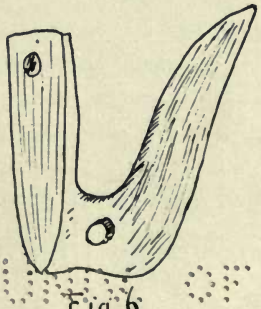

Fig 6

SAMOYÈDES' REINDEER HARNESS.

To face page 508.

carved, but oftener quite plain and simple. The pattern varies considerably, according to the individual taste of the owner or maker. Sometimes both brass swivels and brass rim-rests of Russian manufacture are used. Indeed, the bone swivel appears to be a copy from the brass one, and it is doubtful if the Samoyèdes used swivels before they saw the brass ones. The rein-rests, however, are of quite different patterns, and are doubtless original.

We now come to the traces. They are attached to the tanned leather collar (which lies flat round the neck) by a bone trace-peg underneath (Fig. 6), pass along between the fore-legs underneath the belly between the leather thong (which connects the two ends of the saddle) and the chest, and between the hind legs, and is attached to the sledge, as shown on plate sliding freely through perforated pieces of bone, and thus forcing the deer to pull equally; as, were they not to do so, the haunches of the lazy one would come in contact with the front of the sledge. These bone-runners or trace-runners are represented in Figs. 11 and 11*b*.

The halters of the second, third, and fourth deer differ slightly from that of the leading deer. Besides the two round pieces of bone which pass up the sides of the head, and one of which bends over the eye in front of the ear of the leading deer (Fig. 7), and both of which are more or less bent *as* in the leading deer; there are two pieces of flat bone which lie across the neck, *behind* the ears (Fig. 8). The bridle rein is attached, *not* to these pieces of bone, but to the thong which joins them, by a ring or loop, and it is not quite easy to understand their use, unless it be to protect the jugular vein or neck generally, from the rubbing of the thong, or save the deer from choking. The leather thong which passes under the chest, attaching the two ends of the saddle, is fastened to one side of the saddle by a button (Fig. 10).

Fastened to the sides of the sledge near the back are two sets of bone harness, which are used for attaching the reins of the first and fourth deer of the next sledge in the caravan, and which has no driver, and forcing these deer to keep the same pace with the leading or driven sledge. In the caravans two deer only are generally used for the lighter laden sledges, while four seems the usual number in the travelling sledges. These plain pieces of bone are represented in Figs. 11 and 11*b*, and are similar to those used in the leading sledge.

We received the Samoyède names of these pieces of bone, which in case of inaccuracies I did not give at the time in my journal, but added them afterwards under the Figures.

The only other articles connected with the harness-sledges are the long poles used in driving, which have bone rings fastened at the small end, plain generally, but some carved (Figs. 12, 13).

I ought to have mentioned that the collar and saddle are made usually of tanned leather when procurable, but untanned leather is used for the rest of the harness, whilst the rein is plaited or twisted and the traces have the hair still remaining on.

The chooms we saw were two in number, and were placed a few yards apart, with their entrances towards the sledges; and the smoke from the fire inside slowly issued from the apex of the cone, or space at the junction of the poles left for its exit.

There were no deer in sight, and the only sign of life outside the chooms was the bark of one of the doggies. On approaching nearer one of the brothers made his appearance and began cutting wood, and we proceeded to examine the sledges and the chooms.

There were thirty smooth, slender, straight poles of birch-wood in one choom and the same number, or about

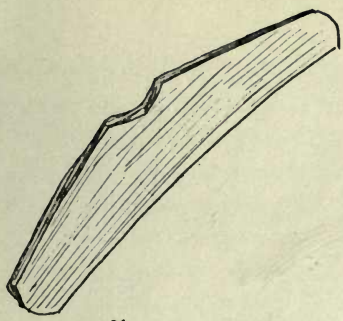

Fig 7

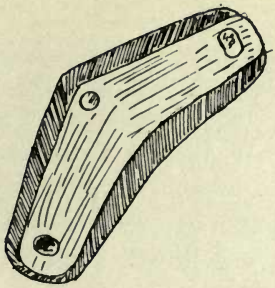

Fig 8

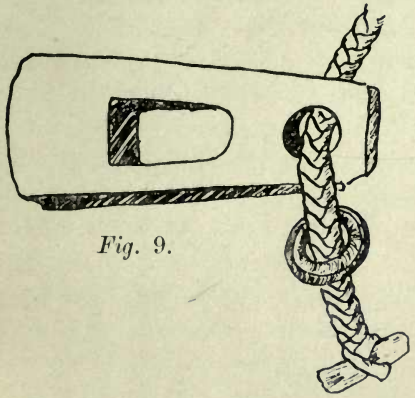

Fig. 9.

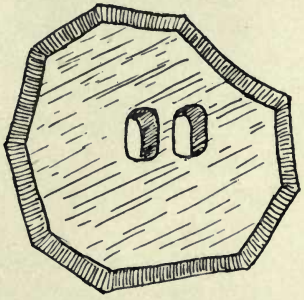

Fig 10

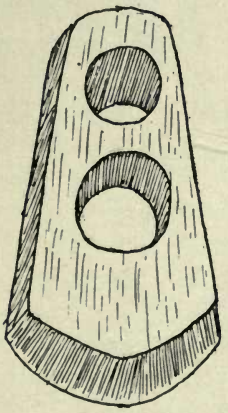

Fig 11

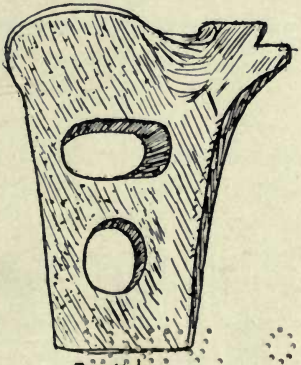

Fig 11 b

SAMOYÈDES' REINDEER HARNESS.

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the same number, in the other, meeting at the top and crossing in sets of three or four, the ends well blackened by the smoke. Reindeer skins sewn together with sinew, and showing signs of long use by their tarnished appearance and multitude of patches, were wound in one or two large sheets round the poles, and kept in their place by a thin strong cord of twisted sinews, which also lashed the poles together at the top.

Sometimes the covering of the chooms is made of squares or oblong pieces of birch-bark sewn together with sinew, and one which Alston and I examined near Archangel in 1872, belonging to a poor family of Samoyèdes who remain there winter and summer, was so covered.

The space left for entrance has a folding flap of the same material as the rest of the covering (which was also lined with coarse sackcloth, probably old bags, or old coarse sailcloth), and was of triangular shape and about two feet wide at the bottom.

Lifting this off we entered the first choom, and found it occupied by an old Samoyède, doubtless the father of the family, and a young girl who was tending the fire.

We found the inside comfortably warm, with a hole underneath the edge of the covering, causing a gentle draught which lifted the smoke above the immediate level of the floor of the choom, and assisted the free upward progress of the smoke, which, as already stated, found egress at an opening left at the top, which was about one and a half feet in diameter. No other air got in elsewhere, save when the covering of the entrance was raised, as snow is heaped up outside to the height of a foot or so against the sides.

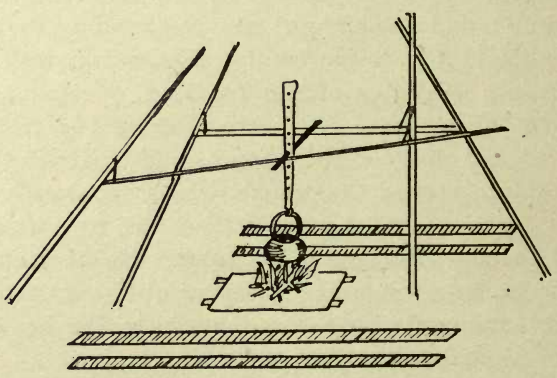
There is a fringing piece of reindeer skin all round which in severe weather may be tucked in underneath, or may simply have been added to increase the height of the choom. It was, however, present in the other choom also.

A fire of dry pine logs split with an axe burned brightly in the centre, supported by an iron plate about 3 feet long and 2 feet wide, which was raised above the snow and supported by pieces of wood laid parallel to one another with their ends towards the entrance.

On either side were two large heavy planks of wood, 6 or 8 inches wide, laid on the snow, and forming a partial flooring, and between these and the walls on the same sides of the choom were the couches of the family.

These couches were formed first of a layer of straight birch twigs lashed together with string, second with a piece of grass matting, and lastly with reindeer skins, while the pillows were either rolls of the same, or màlitzas and clothing, sloping upwards to the choom walls.

The members of the family rest or sleep with their feet to the fire, and when eating sit with the legs crossed underneath like a Turk, or sit or lounge in different positions, which were generally concealed by their màlitzas, so that we could not judge of them always with accuracy.



Above the fire a black iron pot was suspended from two strong iron bars, which were fastened together near the centre of the choom, opposite the entrance, to another

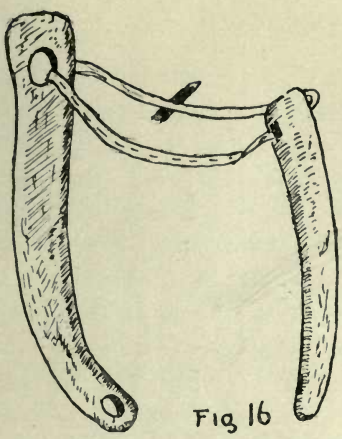


Fig 16

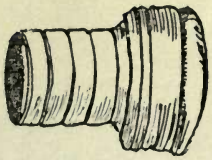


Fig 12

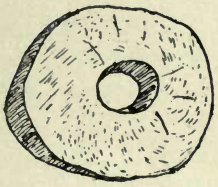
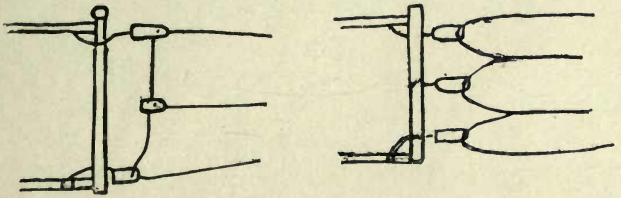
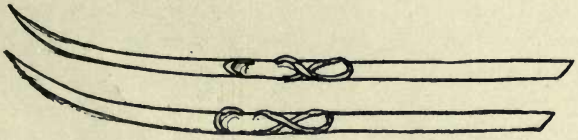


Fig 13



ATTACHMENTS TO SLEIGHS OR SLEDGES, SHOWING THE BONE TRACE-RUNNERS.



RUSSIAN AND SAMOYÈDE SNOW-SHOES.—*Luije.*

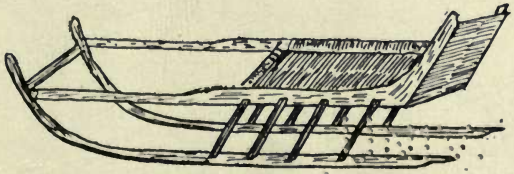


Fig 17

SAMOYÈDE SLEIGH OR SLEDGE.

SAMOYÈDES' REINDEER HARNESS AND APPURTENANCES.

To face page 512.

straight pole of wood, and at the other end were fastened rather further apart to two side poles of the choom on either side of the entrance. A cross bar lay across these, and supported another perpendicular iron rod which was perforated with holes throughout the greater part of its length, to admit of the raising or lowering of the pot, which was hung by the handle in a notch at its lower extremity. A second perpendicular rod hung unused nearer to the upright pole of wood.

Round the inside of the choom, lying upon the snow or upon the reindeer skins, were various utensils, mostly, as far as we saw, of Russian manufacture, such as tea-chest of wood strongly bound with lead, bowls of wood and crockery, birch-bark buckets, etc.

We were asked to take tea, and Russian rolls were handed round along with it and a kind of small spiced cake, which when fresh must be 'not bad to eat.' Afterwards I handed a small modicum of cognac, first to the brother, who was our host apparently, then to the elderly lady, but it was taken from her, and we learned that the women must not drink until after all the men had done so. In accordance with the rule we all tasted first, and there was still a good 'droppie' left to warm the 'cockles of her heart.' She did not drink tea with us, but when we retired doubtless she would receive her share. The host appeared to be a merry fellow and laughed heartily once or twice. The profile was far from being ugly, and he seemed sharp and intelligent, and the young girl was rather pretty than otherwise.

The teeth of all the Samoyèdes we have seen were regular, small, and very white, and the same remark applies to the teeth of the Russian peasantry. We have been surprised at this sometimes, when we considered that tooth-brushes are unknown, or nearly unknown, to either, but only lately we found out the reason. Both

Russians and Samoyèdes are in the habit of chewing the resin or gum from trees for the purpose, or possibly because it has a flavour which they appreciate. After being masticated for some time the piece is thrown away, and it then appears of a delicate pink colour which turns, however, to dark brown or black shortly after exposure to the air.

The Samoyèdes generally are not the least shy of giving us information, and our host in this instance received us with a certain amount of natural grace and politeness. They do not evince great surprise at anything they see in us or belonging to us, nor any great curiosity. What appeared to interest them most was my large knife, which was examined with some minuteness.*

When clothed in the màlitzas of course their motions are greatly concealed, and the first impression one receives is that their ordinary gait is both slow and rather slouching, but that they are active there can be no doubt after watching them lassoing the deer. They run lightly, and do not appear to sink much in the snow.

The hands are small and well formed. The cheeks of the young girls are ruddy and not very dark, a healthy brown with the red showing through. Of children we have as yet seen very few, and these have generally been wrapped up in furs and asleep on the sledges.

Deformities occur amongst them, and we have seen specimens of both bandy-legged and knock-kneed Samoyède men, who were also below the average stature.

On the 1st of May, at Ust Zylma, the tall Jew—by name Konórsky—came with a cross, which we took, and soon after a Samoyède arrived from whom, with Konórsky's assistance—he speaks execrable German—we got an

* These were made to the order of my old friend and companion, E. R. Alston, from Wilkinson in the Strand, one for himself, one for me, and one for C. G. Danford.

account of the marriage and burial ceremonies of the Samoyèdes. As before noticed, the information given by the Samoyèdes is given freely while we wrote it down; and though in this instance it was first spoken in Russ, then in bad German, and lastly in English, we believe that on the whole it can be relied upon as correct.

Samoyède Marriage Ceremony.—A young man wishing to be united for life to the girl of his choice goes first to her father's choom, and taps first him and then the mother on the shoulder with a short stick, and then asks to have their daughter in marriage. He then hands a glass of vodky from a supply brought with him to the father and mother. If they are agreeable to the union they drink the vodky and the father says, 'I am willing, you may now ask my daughter,' and then the suitor goes away.

Another day he comes again to the father's choom, accompanied by all his people, and brings plenty of vodky. He enters the choom, but the rest remain outside. The father then gives him vodky, of which he drinks half, as he sits at the right hand of his intended, and he then with his right hand passes the remainder under his left arm to her, and she finishes it. Then a glass of vodky is given by the father to his daughter, and the former part of the ceremony is reversed, the girl drinking half, and with her left hand passing it under her right arm to her sweetheart, who in turn drinks off the remaining half. Thereafter a piece of raw flesh is given by the father to the young man who eats the whole, and a second piece is then taken from the floor by the young man, of which he eats half, and, as with the vodky, passes the rest under his left arm to the girl, and after she has eaten it another piece is taken by her, half of it eaten, and the rest handed to him. After that there is a general merrymaking,

eating and drinking in the same way, no doubt, that other savages do (at home and abroad), save that knives and forks and possibly cooked viands are less abundant!

At night the choom is vacated by all but the young couple, and an old man, or kind of magician (shaman), comes in, and the young man asks if his intended is a virgin or not. If she is, the shaman begins beating on a drum. If he says she is not, and the young man believes him, he has the option of refusing to take her altogether, or he and she may be betrothed for a year. If at the end of that time he is fond of her and she of him, they are permanently united, but in any case if children are born during the year he is bound to provide for them. He gives her the skin of a black fox. The father gives him up to twenty or thirty reindeer and a choom and all that belongs to it, and he gives the father a sum of money. The richer Samoyèdes give as high as two hundred roubles for their wives.

Samoyède Funeral Ceremony.—When a Samoyède dies he is laid flat on the ground or snow, according to the season of the year, on his back with his best clothes, màlitza and rhubáka, etc., on. The best 'bück' in his flock is killed and laid beside him, and the 'tuer,' or pole for driving the reindeer, and all the reindeer harness and his gun, if he possessed one, and his various belongings.

His people wail and cry and mourn, and then raise the camp and go away, and *never again pitch their choom in the same place nor go near it.*

The dead are respected by the other Samoyèdes, and the bodies are never touched by them, but they are left to the mercy of the birds and beasts of prey. The people believe that if his property is not placed beside him his spirit will afterwards go about in search for them.

Christianised Samoyèdes are buried in the Russian manner.

Samoyède Prayer and Sacrifice.—When they desire to pray to their god, they bring a reindeer before their idol, which is simply a symbol of their god, and put a noose in the middle of a long rope round its neck. A man holds the rope at each end and another has a noose round its hind foot. The animal is jerked off its feet and thrown at full length on the ground, and it is then stabbed on both sides with two pieces of sharp wood (not with a knife), and in this way they consider that the deer 'is brought to their god,' and the sacrifice is finished.

After dinner on the 26th of May a Samoyède came in, and after much hammering and reiteration and explanation of sounds and syllables, we were able to arrive at the names of the various parts of the reindeer harness, choom and belongings, etc. They differ a little from the names we received before, but the man who told us them the last time was not a pure-bred Samoyède, which may account for the difference in the sounding. The constant use of a y-like sound between certain consonants and the following vowel—like the nasal sound in the Spanish ñ, as in cañon—makes it difficult for the unaccustomed ear to detect its presence or absence, as some seem to pronounce the words with it and some without, as in 'yod*y*ina' or 'yodina'—a saddle. A terminal *n* has also a nasal sound —ñ—or is dwelt upon like n-n.

APPENDIX E

Birds of Lower Petchora.

BEING AN APPENDIX TO THE PAPER IN 'THE IBIS'* PUBLISHED PRIVATELY WITH THE AUTHORS' SEPARATES.

BY H. SEEBOHM AND J. A. HARVIE-BROWN.

Since the foregoing articles appeared in 'The Ibis' we have had an opportunity of working at some of the birds mentioned in our catalogues, and in some instances we have detected errors in the original identifications. We are also in possession of important information respecting the discoveries of later travellers, which in some cases confirm and in others supplement our own observations.

The most important correction which we have to make is in the name of the Pipit, which was examined by Dresser, pronounced to be an undescribed species, and named by him in the 'Birds of Europe' *Anthus seebohmi*. We regret to have to consign this name to the 'limbo' of synonyms. We have carefully compared our birds with skins of *Anthus gustavi*, and are convinced of their identity. They agree in the rich markings of the upper parts, in the two more or less distinct whitish longitudinal stripes on the back, in the wing formula, in the stout and

* 'The Ibis,' April, 1876, p. 216.

wide bill, and in having the outer tail-feathers smoke-brown where they are white in most Pipits. This bird was first described by Swinhoe (P.Z.S., 1863, p. 90) from skins obtained at Amoy, in South China; he afterwards obtained several birds from Chefoo, in North China. In both localities the birds were apparently on migration. Still more recently he obtained a skin from Lake Baikal. Finsch and Brehm observed the bird during their visit to the Ob in the summer of the present year (1876), and succeeded in obtaining one specimen. We may therefore conclude that this species has a somewhat similar (though slightly more northerly) range to that of *Phylloscopus borealis*, breeding in the north of the Palæarctic region not far from the limit of forest growth, from the Petchora to the Lena, passing through China on migration, and (if it is safe to reason from analogy) probably wintering in the islands of the Malay Archipelago. It probably also breeds, a little above the limit of forest-growth, on the mountains near Lake Baikal.*

The Stonechat with the white rump and almost entirely black axillaries, which we have described as the Asiatic form of *Pratincola rubicola*, is now generally admitted to be a good species, and should therefore stand as *Pratincola maura*, Pallas. The Western species has the upper tail-coverts more or less spotted, and the axillaries white, with concealed dusky bases.

The *Phylloscopus* mentioned on page 24 as allied to

* Since the above was written we have been informed that this bird has been obtained from the Philippine Islands and from Borneo. *A. gustavi* has also been procured in winter at Manilla (Bruggemann, *Abhandl. Ver. Bremen*, v. p. 67), Celebes (Bruggemann, *loc. cit.*, Walden, *Tr. Z. S.*, viii. p. 117), and Batchian (Walden, *loc. cit.*). In the British Museum there are also skins from Borneo and Negros. It appears that the skins from Batchian were described by Gray as *Anthus batchianensis*, which adds a third synonym to the list of titles of the Petchora Pipit.

P. trochilus, but differing from that species in the wing formula and in its note, has not been lost sight of. Not liking to make a new species upon somewhat slender grounds, we did not describe it. Since then we met with the description of a *Phyllopneuste major*. It is described as nearest allied to *P. trochilus*, but differing from that species in having a shorter second primary, which is intermediate in length between the sixth and seventh, instead of between the fifth and sixth. This seems a very slight difference upon which to establish a species. In the very nearly allied species *P. collybita* the second primary appears to be in length indifferently between the sixth and seventh or the seventh and eighth. Tristram appears to have felt the injustice of dividing one species on this ground without serving the other in the same way. In order to be impartial he accordingly splits *collybita* (then generally called *rufa*) into *rufa* and *brevirostris*. Seebohm has shot both forms of *collybita* at Valkenswaard, in Holland, and on Heligoland, and has no doubt of their identity, being unable to detect any difference in their notes or habits.

The insertion of *Phylloscopus neglectus* in our list of the birds of the Petchora proves to be an error. Since the article was written we have had an opportunity of examining a specimen of Hume's bird. Our bird is only an unusually small male *P. tristis* in the extreme summer plumage of high latitudes, when nearly all yellow occasionally is absent. The true *P. neglectus* is a still smaller bird, the largest males being less than the smallest females of *P. tristis*. It is also still more earthy-brown, approaching sandy-brown in colour.

The species described by us as *Pyrrhula vulgaris* is the large variety, with an almost brick-red breast, which is known as *major* of Brehm—one of the few instances in which the names of that excellent field-naturalist stand

out of the almost innumerable names with which he has disfigured the synonymy of ornithology.

The European Redpolls have lately been carefully examined by Newton and Dresser, who have come to the conclusion that there are four species. They pronounce our birds to be *Linota linaria*, Linn., and *Linota exilipes*, Coues. The former species is said to have a larger bill, and always to have the rump distinctly striped, whilst the latter has a white rump and a smaller bill. Among our Petchora birds there are, however, several of the smaller-billed forms with the rump distinctly striped. The question arises, Which is the constant character by which the species may be determined? or may it not be possible that neither character is constant, and that the presence of intermediate forms may justify us in considering *L. exilipes* as only an incipient species?

When we planned our journey to the Petchora there were six birds which were in the habit of visiting the shores of our island on migration in considerable numbers, the eggs of which were almost, and in some instances entirely, unknown. To discover the breeding-places of these birds was one of the principal objects of our journey. We satisfactorily disposed of three of these birds—the Little Stint, Grey Plover, and Bewick's Swan. The remaining three were the Knot, the Sanderling, and the Curlew Sandpiper. We shot the latter bird at the extreme north-east point of our journey, in the breeding season; and in 'The Ibis' of January this year—*i.e.* 1877—will be found the announcement that Drs. Finsch and Brehm discovered it breeding a little further to the east, close to the mouth of the Ob. The remaining two birds have also been disposed of. We have been favoured, by the kindness of Capt. Feilden, the naturalist on board the *Alert*, with a sight of the ornitho-

logical plunder of the Arctic Expedition, and had the pleasure of listening to his most interesting paper at the Zoological Society. Both the Knot and the Sanderling were discovered breeding in lat. 82° 20′, the extreme northern limit of animal life, on the shores of the Polar basin, a little to the west of Cape Union. They were also seen in Thank-God Bay, on the Greenland coast of Kennedy Channel, about lat. 81½°. The young and down of the Knot were obtained, but, unfortunately, no eggs. The eggs of the Sanderling are of the size of eggs of the Lesser Tern or Kentish Plover, and in colour may be described as miniature Curlew's eggs. The Knot was found feeding on the buds of a saxifrage, which grew on the bare places in the snow, on its first arrival, and afterwards on the larvæ of Diptera.

Having brought up our knowledge of the birds of the Lower Petchora to date, and included in this Appendix a short summary of the recent discoveries made by Drs. Finsch and Brehm in Siberia, and by Capt. H. W. Feilden in the Arctic regions, it may not be out of place here to shortly review the work accomplished, and indicate the work remaining to be done in Northern Russia.

Harvie-Brown for some time past has been engaged in collecting and tabulating all the records of previous authors relating to the ornithology of Northern Russia north of 60° N. lat. This work, when completed, will form the subject of separate papers on the distribution of the birds of North Russia. It is proposed in these papers to bring our knowledge of the subject up to date, and at the same time, by a convenient tabular arrangement, to permit of future records and additions, or necessary corrections and alterations, being easily made from year to year.

The results of his examination of these records show that the north-western portion of Russia, north of 64° 30′

N. lat., and between 30° and 40° E. long., has received a comparatively small share of the attention of naturalists, and that since Von Middendorff* wrote in 1840, and Lilljéborg † in 1856, there have been but few notices of its ornithology.

Professor Palmén, of Helsingfors, however, has accumulated many private notes and communications from naturalists who have—during comparatively late years—visited the west coast of the White Sea and the peninsula of Kola. Many of these notes Professor Palmén has incorporated with his 'Finlands Foglar,' vol. ii., 1873.

Further, Harvie-Brown has been informed by Professor Palmén that Lieut. H. Sandéberg, a Swedish ornithologist, has done very good ornithological work in the Kola peninsula last year (1876), and has also collected around Archangel; but it is not yet known where or when the results will appear.

The country around Archangel and the delta and course of the River Dvina, as well as the Cholmogory and Mezèn districts, have undergone tolerably careful scrutiny since Brandt and Bystrov gave their contribution to our knowledge in 1844; but the country to the eastward of Mezèn and between that and the Petchora may still be considered as almost virgin ground to the ornithologist.

* Middendorff, 'Bericht über die orn. Ergebnisse der naturhisto Reise in Lappland, wahrend des Sommers, 1840.' *Beitrage zur Kenntniss des Russ. Reiches*, Bd. xi.

† Lilljéborg, 'Bidrag till Norra Rysslands och Norriges fauna, samlade under en vetenskapelig resa i dessa lander, 1848,' K. V. A. Handl. 185, ii.

Brandt-Bystrov, 'List of Skins of Mammals and Birds sent by Herr Bystrov, of Mezèn, to Zool. Mus. Acad., *Bull. de la Soc. de l'Acad. de St. Petersbourg*, vol. x. p. 350, 1842. N.B.—A full list of authors and their writings will be given in chronological order in Harvie-Brown's papers on distribution.

Mr. Piottuch returned to Archangel from Ust Zylma by the summer route up the Zylma and down the Pëza Rivers, an account of which journey he sent us in a letter dated March, 1876. As he was not encumbered with much luggage, the voyage from Ust Zylma to Archangel occupied only twenty-eight days. The total distance by this route is 1,364 versts (or 909⅓ English miles). The following species of birds were met with during his boat-voyage between Ust Zylma and Mezèn, and while crossing the watershed between the head waters of the Zylma and Pëza Rivers:—*Dafila acuta*, *Nettion crecca*, *Mareca penelope*, *Clangula glaucion*, *Tringa temmincki*. *Terekia cinerea* were seen some sixty versts up the Zylma, where the river-bottom was sandy; higher up, where the river-bed becomes stony, and frequent portages must be made, he met with many *Mergus albellus*, *Fuligula clangula*, and *Aquila chrysætus* (?), and also saw in the woods *Loxia leucoptera* and *Picus martius*, and large flocks of *Perisoreus infaustus*; at the watershed he shot an *Asio ascepitrinus*; on the meadow-land on the shores of the Pëza River he found *Emberiza aureola* abundant, as also *Cyanecula suecica*; *Acredula caudata*, *Loxia bifasciata*, and *L. curvirostra* were common, and Ducks were abundant.

In the north-east Brandt has given a list of seventy species in Hoffmann's* work on the Northern Ural. We have treated of the birds of the Lower Petchora, and there are also Von Heuglin's † papers on Novaya Zemlya.

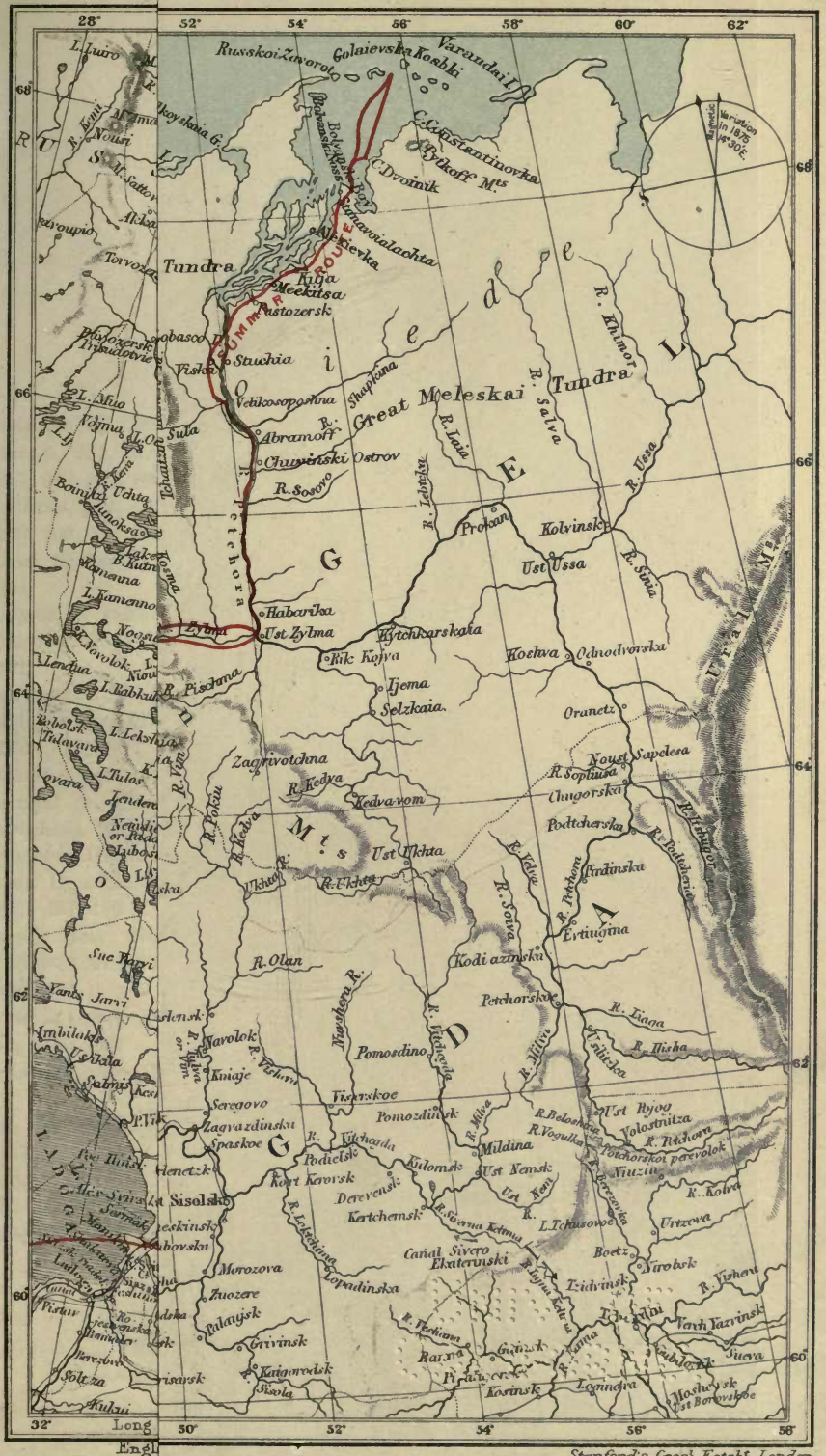
* Hoffmann, 'Das nordliche Ural und das Kusten-gebirge Paechoi,' vol. ii., St. Petersbourg, 1856.

† Von Heuglin, 'Notes on the Birds of Novaja Zemlia and Waigats Island' ('Ibis,' 1872, p. 60), and 'Nachrichten über Novaja-Semlja, Auszug aus einem Schreiben an Hrn. v. Middendorff' (*Bull. Ac. Imp. St. Petersbourg*, xvi. p. 566; *Mel. Biol.* viii. pp. 220-225, 1872), and 'Nachtrag zur Orn. von Novaja-Semlja und der Waigatsch-Insel' (*Journal fur Orn.*, 1872, p. 464).

But there still remains ornithologically unexplored a great tract of country—forest-land and tundra—eastward to the Ural. With these great gaps still existing, a minutely accurate knowledge of the distribution of birds of North Russia is not possible. It is hoped, however, that the papers now in preparation will prove useful stepping-stones to a more complete knowledge of the fauna.

Of the districts to the southward, *i.e.*, between 64° 30′ N. lat. and 60° N. lat., it is only necessary here to mention that the western portions, *e.g.*, the districts of Onega and Ladoga and the Olonetz Government, have been lately most carefully worked, and in the spring of this year we may hope to receive the reports of the work done there in 1875 and 1876.

Further eastward, through the vast Government of Vologda, there remains much unexplored ground, even to the Ural; and the upper valley of the Petchora (in Vologda) and Northern Perm still require thorough investigation.


28°
52°
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56°
58°
60°
62°
Russkoi Zavorot
Golaievska
Kosbli
Varandai L.
Bolvanskoi Nos
C. Constantinovska
Dyrkoff Mts
C. Droinik
Magnetic Variation in 1826 W. 30°.
Tundra
Kuja
Meekatsa
Pustozersk
SUMMER ROUTE
Stuchia
Great Meleskai Tundra
R. Khmot
R. Salva
R. Laia
R. Ussa
Abramoff
Churvinski Ostrov
R. Sosowo
R. Ledoika
Proksn
Kolvinsk
Ust Ussa
R. Soia
Habarika
Ust Zylma
Kytchkarskaia
Rik Kojva
Hoctva
Odnodvorska
Ijema
Selzkaia
Oranetz
Novoi Sapelera
R. Soplussa
Chugorska
Podtcherska
R. Podtcherska
Kedvavom
Ust Ukhta
R. Ukhta
R. Yelva
R. Sowa
R. Petchora
Irdinska
Ertiugina
Kodiazinska
Petchorskoi
R. Olan
R. Tsiga
R. Ilicha
R. Litkina
Pomozdino
Nyshera R.
Yavolok
Kniaje
Fisenskoe
Pomozdinsk
R. Mitva
R. Reloshka
R. Voguika
Ust Pyoa
Volostnitza
R. Petchora
Mildina
Petchorskoi perevolok
Kulomsk
Ust Nemsk
Ust Jeni
Kortchemsk
R. Siuma Kitma
L. Tchusovoe
Urzova
Boetz
Nyrobsk
R. Vishera
Tsidvinsk
Varh Jazvinsk
Suova
Kosinsk
Lopadinska
Canal Sivero Ekaterinski
Morozova
Zuozere
Pulatysk
Grivinsk
Kaigorodok
Sisola
Ust Sisolsk
Ust Borovskoe
Long
32°
50°
52°
54°
56°
58°
Engl
50
Stanford's Geog.l Estab.t, London

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